

## Inside Dope

By GEORGE  
F. TAUBENECKLearn to live and laugh —  
thus delay your epitaph

**Stories of the Week**  
**World's Biggest Freezer**  
**Freezers Going Great**  
**On Farms and Suburbs**  
**Broad-Humored Americans**  
**Are Broad-Minded**  
**Where's Their Funnybone?**  
**Why We Are Democratic**  
**Tolerance Needs Humor**

**Stories of the Week**

Ever hear what Lord Godiva said to Lady Godiva at the conclusion of her historic ride?

"Whereinell 'ave you been? Your horse came back three hours ago."

"How about that?" a surprised movie usher pointed out to the manager. "Third row, aisle C. There's a horse sitting there eating popcorn."

"Amazing," agreed the manager. "Our popcorn machine hasn't worked all day."

**World's Biggest Freezer**

Recently lamented Admiral Byrd described Antarctica as "the big deep freezer of mankind, a place that could banish famine from the earth."

"Some day," he predicted, "the nations of the world may use this natural sub-zero freezer for storing present bumper crops against a future when population increases will outstrip food supplies."

He could be right. We may need it for that purpose if the world's birthrate continues to explode.

**Freezers Going Great**  
**On Farms and Suburbs**

The food freezer business, which chalked up impressive gains in both unit and dollar volume since the end of World War II, has shown signs of cooling off a bit. Even so, in 1956 more than a million home food freezers were sold. And they carried a total price tag of almost a HALF BILLION DOLLARS.

If any appliance ever was designed with the farm wife in mind, it is the food freezer. Unlike her city cousin, the farm homemaker has no supermarket or grocery store around the corner from her home. Therefore, it's not only convenient and economical, but often essential that she maintain facilities for storing large quantities of frozen food on the premises of her homestead.

Mr. Farmer also saves money with a freezer even more than (Concluded on Page 12, Col. 1)

**Compressor Shipments Up 32% In '56**

WASHINGTON, D. C.—Manufacturers' shipments of compressor bodies reported to the Air-Conditioning & Refrigeration Institute for the calendar year 1956 totaled 4,775,843 units, not including compressors for household refrigerators, a gain of more than 32% over the 1955 figure of 3,607,786 units, Geo. S. Jones, Jr., managing director of ARI, reported.

Of the 1956 total, 284,022 compressors were for automotive air conditioning, compared with reported shipments for the year 1955 of 255,371 automotive units.

December 1956 shipments totaled 305,283 units, of which 28,674 were for automotive air conditioning use.

The figures were prepared on the basis of reports from 18 manufacturing companies, estimated to represent more than 90% of total U.S. production of compressor bodies of the types covered.

(Concluded on Page 4, Col. 3)

**Worthington Sets New Cooling Div. Sales Group**

HARRISON, N. J.—M. M. Lawler, vice president of the Worthington Corp. Air Conditioning & Refrigeration Div., announces the establishment of a new internal sales organization to handle the expanding Worthington air conditioning and refrigeration business through franchised outlets.

Seven district offices headquartered in Cleveland, New York, Philadelphia, Los Angeles, Atlanta, Chicago, and Houston, manned by a complete field sales force, will handle the cor-

(Concluded on Back Page, Col. 3)

**BEHIND PAGE ONE...****Selling for Profit**

How To Develop Home Air Conditioning Sales Approach Based on Need..... 8

**Shopping Center's Cooling Towers**

Each Tenant Has Own Packaged Tower For Flexibility, Individual Control..... 10

**Truck Refrigeration**

Progress Report on Uniform Ratings..... 15

**COMMERCIAL REFRIGERATION SECTION**

Distributors Advised To Become Experts on Complete Store Layout..... 16

CRMA Survey of Ratio of Products To Total Volume for 1956..... 16

'Mom and Pop' Stores—Commercial Dealer Sees His Bright Future In Their Success..... 18

Vending Machines—Big New Hope For Commercial Refrigeration (Editorial)..... 14

**Regular Features**

What's New..... 22

Patents..... 26

**Room Cooler Ad Standards Revised For N. Y. Area**

NEW YORK CITY—Using room area and "tons" to describe cooling capacity of room air conditioners is prohibited under newly-revised standards for the advertising and selling of room air conditioners in the metropolitan New York area for 1957.

The 17 standards have been issued by the Better Business Bureau of New York City and have the unanimous approval of 14 local room unit distributors who met with the BBB recently. They take effect on April 15.

Hugh R. Jackson, BBB president, said that a proposal was made to require any statement of cooling capacity to be expressed in terms of B.t.u., but that unanimous assent could not be obtained from the distributors. The adopted rule says that when capacity is expressed in B.t.u., it shall be in accordance (Concluded on Page 24, Col. 1)

**Romney Indicates Kelvinator May Expand Products**

DETROIT—George Romney, chairman and president of American Motors Corp., issued a statement, following his return from Miami, Fla. meetings with large stockholder Louis E. Wolfson, outlining plans for operations, financial structure, and "important potentials" of the company.

Among other things Romney said, "It is the company's intention to strengthen and expand the Kelvinator appliance business, already a full line leader in the industry, by the addition of new products through our own research and development and by acquisitions."

"My conference with Wolfson was most fruitful and satisfactory (Concluded on Page 4, Col. 1)

**CRMA Reports Low Temp Case Share of Volume Tops '56****New High 32.2% Ratio Shows Greatest Gain In Whole Product List**

With this issue, AIR CONDITIONING & REFRIGERATION NEWS is publishing a new section devoted to specialized stories and articles designed for readers in the commercial refrigeration field.

The NEWS has always reported all of the news in the field of commercial refrigeration—in fact, since the life of the NEWS parallels practically exactly the life of the commercial refrigeration industry, it has told the complete story of the industry's progress.

Objective of the new Commercial Refrigeration Section, which will appear once a month, is to concentrate attention on advanced methods and procedures in the selling and installation of commercial refrigeration equipment.

Turn to page 16 for the beginning of this new section.

Closed single duty cases' share (Concluded on Page 16, Col. 1)

**Frigidaire Leaves ARI Ice Cream Cabinet, Small Compressor Divisions**

DAYTON—Frigidaire Div., General Motors Corp., last week confirmed a report that it has resigned from the ice cream cabinet and small compressor divisions of the Air-Conditioning & Refrigeration Institute.

In this connection, Frigidaire issued a statement explaining that, as previously reported in the NEWS, it is de-emphasizing production of its commercial refrigeration line to concentrate more heavily on items for the home. The statement continued:

"Frigidaire will cut back on production of condensing units (Concluded on Page 4, Col. 3)

**Heat Pump Cooling Talks Lead EEI Chicago Conclave**

NEW YORK CITY—Heat pump air conditioning and electric heating talks are among the highlights programmed for the 23rd annual sales conference of Edison Electric Institute at the Edgewater Beach hotel in Chicago, March 31 through April 4.

EEI here issued a preliminary program for the meeting which is "expected to bring record-breaking attendance." Registration fee is \$15 per delegate.

Sunday and Monday, March 31 and April 1, meetings of 22 committees of the Commercial Div. will be held in scheduled locations at the hotel.

On Tuesday, April 2, meetings of the residential, farm, industrial power and heating, and (Concluded on Back Page, Col. 1)

**Airtemp Urges Outlets 'Condition Own Homes'**

DAYTON—Airtemp Div., Chrysler Corp., is launching a plan designed to encourage every one of its dealers and distributors to air condition their homes.

J. F. Knoff, vice president of sales for Airtemp, said that a program to secure this objective "is now in the hands of our field representatives in the 10 Airtemp sales regions."

In disclosing details of the program, Knoff said that special prices would be given dealer and distributor principals ordering residential air conditioning (Concluded on Back Page, Col. 4)

## Hussmann Orders, Shipments Top '56 Period, New Plant Due

ST. LOUIS—New orders and shipments of Hussmann Refrigerator Co. in the first quarter are running slightly ahead of a year ago but the profit picture is somewhat uncertain due to rising costs, W. B. McMillan, chairman and president, said here.

"While our backlog does not indicate any slackening of demand, I feel the market is not quite as firm as it was a year ago," he stated.

"With some indications of hesitancy on the part of customers to place new orders, and with a highly competitive market, we believe it is impossible to raise prices at this time to offset the creeping rise in costs. Reluctance to proceed with

expansion and modernization plans is more apparent among independent stores than large chains," he added.

Hussmann will begin production at its new \$2,350,000 Haddonfield, N. J. plant by the fourth quarter of this year.

"We expect to charge off nearly all of our start-up costs for the plant during the current year and this will have some effect on earnings," he noted.

"The plant is expected to get on a profitable basis rather quickly but probably will not reach its full earning capacity for several years," he added.

Directors declared the regular quarterly dividend of 25 cents on common stock, payable May 1.

### Freezer Provisioning Publication Sold

ST. LOUIS—*Freezer Provisioning* magazine, a trade publication, has been sold to Albert Todoroff of St. Louis.

The publication was sold to Todoroff, who has served as its editor since it was founded 10 years ago, by John L. Hoppe and Locker Management, Inc. Todoroff has opened editorial and advertising offices at 111 S. Meramac Ave. here.

### Schaefer Opens Branch

ATLANTA—A new distributing branch to serve ice cream cabinet buyers in Georgia and South Carolina has been established here at 565 Western Ave. by Schaefer, Inc., Minneapolis cabinet manufacturer, it was announced.

Paul L. Hanson will be sales representative for the new branch.



IN ATTENDANCE at an air conditioning industry advisory meeting in the Washington, D. C. office of Federal Housing Commissioner Norman P. Mason recently were: (l. to r.) R. G. Hughes, past president, National Association of Home Builders; Frank J. Nunlist, Mueller Climatrol; Mason; H. H. Ward, Frigidaire; Ralph A. Gonzalez, Airtemp; (back) G. R. Munger, Owens-Corning Fiberglas; T. W. McNeill, American-Standard; Ned A. Cole, Austin, Texas homebuilder; Kenneth Behr, Lennox Industries; Lee Nutter, General Electric; W. A. Lake, Carrier; Don P. Petrone, Typhoon; and Geo. S. Jones, Jr., managing director, ARI, at extreme right.

## Soldiers To Eat Irradiated Foods In Practicality Test

PHILADELPHIA—To demonstrate practicality of a new preservation process, in the coming year the Army will start feeding irradiated foods to troops.

This was disclosed by Army researchers who described progress being made by the Army in atomic sterilization and pasteurization of foods ranging from strawberries to pork chops.

### TREATED FOODS TO LAST YEARS

A future when commonplace foods treated with atomic radiation would last for years on the shelf without spoiling was pictured.

Research has reached a point where the Army is ready to make the soldier into an atomic-age taster to prove to the public the safety of irradiated food, it was explained.

Within a year the Army plans to feed irradiated foods to tens of thousands of troops, according to Lt. Col. George E. Danald, nuclear effects engineers of the Quartermaster Food and Container Institute for the Armed Forces.

In the Army's irradiation process, food is subjected to gamma rays from radioactive materials or to high-energy electrons that kill the micro-organisms that cause food to spoil.

### NO INCREASE IN RADIOACTIVITY

Col. Danald noted that non-irradiated food contains a certain amount of radioactivity and "there is no evidence that atomic processing" creates "any significant increase in radioactivity."

For example, he said, a person would have to eat up to 2,000 lbs. of beef daily to approach the maximum permissible levels.

Researchers, however, face "a very serious problem to get the people to agree that the food is not dangerous," Col. Danald conceded. One reason for the mass-feeding experiment, he continued, will be to demonstrate to the public that the irradiated food is safe.

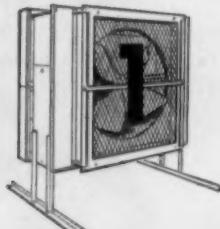
Already the Army has tried out the irradiated food on groups of human volunteers with "no untoward effect," the colonel maintains. It is now experimenting with a group of animals to prove there is no long-term hazard.

### R. Campbell, Jr. Dies

SALT LAKE CITY—Robertson Campbell, Jr., owner of Campbell Refrigeration Co. here, died recently of a heart attack. He was 55.

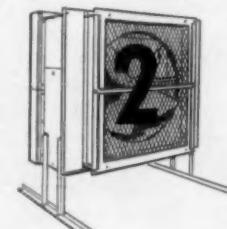
# ONLY KRAMER UNICON + WINTERSTAT\* GUARANTEES ALL 4

### MAXIMUM LIQUID PRESSURE AT EXPANSION VALVE IN WINTERTIME



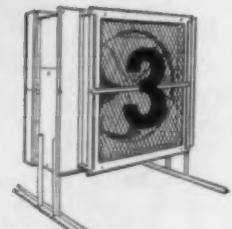
Only the Kramer UNICON plus WINTERSTAT guarantees the full refrigerant pressure at the expansion valve for full cooling capacity — even at below 0°F outdoors — automatically!

### MAXIMUM SUMMER CAPACITY WITH PATENTED WINTERSTAT



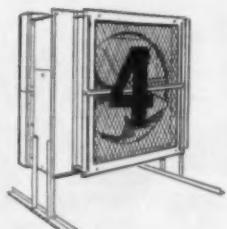
Only Kramer UNICON plus WINTERSTAT guarantees maximum condensing capacity in summer. In hot weather, the patented WINTERSTAT is out of the refrigerant circuit, permitting normal drainage from the condenser without restriction. This assures maximum condensing capacity in summer — automatically!

### PROMPT DEFROSTING AT ANY OUTDOOR TEMPERATURE



The use of UNICON plus WINTERSTAT makes Kramer THERMOBANK the only low temperature system that can guarantee operation and complete defrosting at any outdoor temperature—even 0°F or lower — automatically!

### IMMEDIATE COMPRESSOR START-UP REGARDLESS OF OUTDOOR WINTER TEMPERATURE



Only Kramer UNICON plus WINTERSTAT (using modification #1) ensures positive and immediate compressor start-up with pressurestat operating the system, regardless of outdoor winter temperatures at the UNICON and regardless of length of compressor lay-off — automatically!

\*UNICON is a remote type air-cooled condenser. WINTERSTAT is a year 'round automatic head pressure control.

WRITE FOR BULLETIN U-210-L

**KRAMER TRENTON CO. • Trenton 5, N.J.**

43 YEARS OF CONTINUOUS ACHIEVEMENT IN HEAT TRANSFER

For more information about products advertised on this page use Information Center, page 23.

# KELVINATOR MEANS BUSINESS



**Kelvinator**  
Division of American Motors Corporation • Detroit 32, Michigan

MEANS BUSINESS

**GOOD BUSINESS FOR YOU!**



American Motors Means  
More for Americans

 Live Better  
Electrically

## Kelvinator--

(Concluded from Page 1, Col. 3) tory in every respect," Romney declared. He added that "meetings with him strengthened my convictions that his large investment in AMC is a most constructive development for the company."

Romney said he "had brought Wolfson up-to-date on our plans" while Wolfson "laid before me a number of suggestions." There was "no difference of opinion between me and Wolfson on the objectives of the company and our basic approach."

Among objectives of AMC detailed by Romney were these "highlights" of the discussions:

1) Further growth and improvement of the "historically strong" Kelvinator Appliance Div., both in the U. S. and abroad.

2) Moving forward "aggres-

sively" with our "unique program" in the automobile field, maintaining and building "our leadership in the small and compact car field and increasing the penetration of the medium price market" by our senior cars.

3) An aggressive program of expansion and diversification for the company.

After explaining future automotive plans, Romney said, "I welcome Wolfson's investment and business acumen. In fact, I suggested he consider becoming a member of our board. However, Wolfson declined because of his full-time responsibility as chairman and president of Merritt-Chapman & Scott.

"I am very pleased with results of our meeting and in the expressions of confidence made by Wolfson in the future of American Motors."

## Romney Receives Wolfson's AMC, Kelvinator Ideas

MIAMI BEACH, Fla.—George Romney, president of American Motors Corp., at a press conference here last week following meetings with Louis E. Wolfson regarding specific suggestions to overhaul AMC, said he was "confident results from the meetings will further strengthen the company's position." He explained he was referring to both the firm's "competitive and earnings" position.

Wolfson said he "concurred" in whatever Romney had to say and noted that "it looks like American Motors is on the way to bigger and better things. My only interest in the company is a stockholder's interest."

The two discussed "all aspects of American Motors," Romney disclosed here. "And if I were a rank-and-file stockholder I would be heartened by the results of this meeting."

Romney, of course, does own stock in the company and said he has increased his holdings from 1,200 shares a year ago to 3,700 today.

Wolfson has said he and his immediate family own about 350,000 shares of the 5,670,430 AMC shares outstanding.

Romney further indicated he plans to get together with Wolfson in Detroit during the first half of April to deal with "additional aspects" of the situation.

Wolfson indicated his program would be keyed to the firm's smaller cars and its appliance division.

Earlier Wolfson had said that he and Romney probably would "explore the possibilities of bringing new earning power into the company so as to reverse the loss trend and go forward on a profitable basis, thereby utilizing the present tax-loss carry-forward."

## Compressors --

(Concluded from Page 1, Col. 2)

Of the 1956 shipments, 88.2% were sold by manufacturing companies as compressor bodies, compressors, or condensing units. The remainder, 471,112, amounting to 11.8%, were sold by their manufacturers in unitary end-use products, such as room or self-contained air conditioners, display cases, commercial refrigerators, etc.

Other manufacturers purchased 83.7% of the total, and distributors, jobbers, dealers, retail customers, and other non-manufacturers accounted for the remainder, largely in end-use products.

A tabulation follows:

| (Except for household refrigerators) |                             |
|--------------------------------------|-----------------------------|
|                                      | Shipments Including Exports |
|                                      | †Calendar                   |
| Horsepower*                          | Dec., Year,                 |
| 1/2 & under ...                      | 1956 14,396 522,644         |
| 1/4 .....                            | 41,544 791,127              |
| 1/3 .....                            | 20,171 319,237              |
| 1/2 .....                            | 36,895 485,219              |
| 3/4 .....                            | 11,079 704,688              |
| 1 .....                              | 82,640 933,646              |
| 1 1/2 .....                          | 48,309 393,213              |
| 2 .....                              | 4,655 70,118                |
| 3 .....                              | 7,256 110,408               |
| 5 .....                              | 5,697 89,143                |
| 7 1/2 .....                          | 2,078 44,707                |
| 10 .....                             | 755 9,849                   |
| 15 .....                             | 305 3,862                   |
| 20 .....                             | 173 2,997                   |
| 25 .....                             | 82 1,878                    |
| 30 & over .....                      | 471 7,119                   |
| Total .....                          | 276,506 4,489,855           |
| For Ammonia Refrigerant—             |                             |
| Total .....                          | 103 1,966                   |
| For Automotive Air Conditioning—     |                             |
| Total .....                          | 28,674 284,022              |
| Grand Total .....                    | 305,283 4,775,843           |

\*For all refrigerants except ammonia (excluding units for automotive air conditioning).

†Includes revised data reported to ARI. Reporting companies: Artemp Div., Chrysler Corp.; Bendix-Westinghouse Automotive Airbrake Co. (Oct.-Dec.); Brunner Mfg. Co.; Carrier Corp.; Cope-Refrigeration Corp.; Curtis Mfg. Co.; Refrigeration Div.; Frick Co., Inc.; Frigidaire Div.; General Motors Corp.; General Electric Co.; Kelvinator Div.; American Motors Corp.; Lehigh, Inc.; Servel, Inc. (Jan.-Sept.); Tecumseh Products Co.; Trane Co.; The; Vilter Mfg. Co.; Westinghouse Electric Corp.; Worthington Corp.; York Corp., Subsidiary of Borg-Warner Corp.

This summary includes all compressor bodies shipped by the reporting companies regardless of whether they were shipped separately or incorporated into a condensing unit or unitary end-use product (such as a room air conditioner, display case, freezer, or commercial refrigerator). Shipments for export are included. Shipments for household refrigerators are not included.

In order to avoid duplication of reporting, shipment figures were requested only from companies that assembled the machined compressor casting with the components necessary to make a complete compressor or motor-compressor assembly.

(Concluded from Page 1, Col. 5) for commercial refrigeration. The company is changing certain lines but not relinquishing its efforts as far as commercial, residential, or room air conditioning is concerned.

"Production is being stepped up on these items as well as on condensers for remote units.

"In line with the foregoing, reach-in refrigerators, water coolers, ice cream cabinets, and remote condensing units will be discontinued eventually."

## 'Triple Feature' on Heat Pumps Set for D.C. ASRE Local Meeting April 4

(Concluded from Page 1, Col. 4)

manager, joined the company in 1948. During the last nine years he also has handled special assignments in the commercial sales department, and served as manager of commercial retail sales, and sales planning manager for commercial and air conditioning sales.

Robert G. Werden, manager of the North Atlantic district of York Corp., subsidiary of Borg-Warner Corp., will address the group on the subject of heat pumps for large commercial buildings, using compound compressors without supplementary resistance heat for peak loads.

Preceding the evening program when Werden speaks, members and guests will dine at the Burlington hotel at 6:30.

Beginning at 3:30 in the afternoon the Potomac Electric Power Co. will sponsor an inspection trip to several heat pump installations using equipment mounted on roofs of one and two-story structures. A stop on this trip, it was explained, will be at the Jefferson Memorial Bldg. where a steam system was replaced by heat pumps.

Nearly twice as many heat pumps were installed in the Washington area during 1956 as for all prior years combined, it was pointed out. Roof-mounted equipment has been popular for commercial installations because of its space-saving feature.

### NEMA Estimates 305,400 Home Refrigerators Sold In Jan.

NEW YORK CITY—National Electrical Manufacturers Association estimates that total industry sales of electric household refrigerators amounted to 305,400 in January.

Total industry sales of electric farm and home freezers reached 68,400 the same month, NEMA added. This included both chest and upright freezers.

The figures are based upon expansion of data reported to the NEMA statistical department to cover total industry sales including exports.

## SALES INSTALLATIONS PROFITS



### 5 MODELS

- .. 2 Under Dash
- .. 2 Trunk
- .. 1 Built-in

## Make More Money Now . . . FASTER!

48,000 BTU. at lowest cost to your customers. Polar-Matic and Temptrol with pushbutton selectors gives you completely automatic temperature control even without belt disconnections in winter. YOUR BEST DEAL right now and for the long pull is with ARTIC-KAR for the biggest year in car air conditioning history.

This is the newest, finest Under Dash model ever offered motorists for fast cooling.

## Write, Wire TODAY

for complete details of dealership in your market. Be ready for the demand.



ARTIC-CAR 3922 KALLOCH DR. DALLAS, TEXAS

**"A CASE OF COOL JUDGMENT"**

**FLO-COLD DRINKMASTER STAINLESS STEEL CUBER—COOLER.**  
SOLD THRU DEALERS ONLY

WRITE

United Friguator Engrs.  
MENOMINEE, MICH.

AVAILABLE IN SIZES 4 to 10 FT.

For more information about products advertised on this page use Information Center, page 28.

TEMPIRE PRODUCTS CORPORATION  
Box 72-A, East Maple Road  
Birmingham, Michigan

Send me complete details on the new  
Temprite Cadet Model PA-35

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_

## Cutler-Hammer To Build Low-Voltage Unit Plant In Lincoln

MILWAUKEE — Cutler-Hammer, Inc. here will build a large \$4 million manufacturing plant at Lincoln, Ill., northeast of Springfield, it was announced recently.

Ground will be broken this spring and construction is expected to be completed early in 1958, according to Philip Ryan, president of this producer of electrical control equipment. The single-story plant, providing 300,000 sq. ft. of floor space, will be erected on a 96-acre tract.

Major considerations in the selection of Lincoln were its proximity to steel producing centers and central location in relation to the firm's major markets, Ryan pointed out.

To make safety switches, circuit breakers, and other apparatus in the company's low voltage electrical line, the plant is expected to employ about 450 to 500. Cutler-Hammer now operates five plants here, plus those in New York City, Los Angeles, and San Francisco.

The 64-year-old firm has more than doubled its plant facilities since World War II, Ryan said. It reported sales of \$65.5 million in 1955 and the 1956 sales figure will be a record high, Ryan added.

Ryan further stated the new Lincoln plant will replace the company's present factory in New York City, which eventually will be closed. He noted there was no space for expansion there and the new Illinois site is "more advisable for nationwide distribution."

## U. S. Fines 6 Rubber Firms In V-Belt Anti-Trust Violation

DENVER — A total of \$145,000 in fines was levied against six rubber companies in a Federal antitrust suit charging price fixing and conspiracy to control trade in rubber V-belts.

Federal District Judge Jean S. Breitenstein assessed fines of \$30,000 against Gates Rubber Co., Denver; \$30,000 against Dayton Rubber Mfg. Co., Dayton; \$30,000 against Goodyear Tire & Rubber Co., Akron; \$25,000 against B. F. Goodrich Rubber Co., Akron; \$20,000 against United States Rubber Co., New York City; and \$10,000 against Boston Woven Hose Co.

The court stayed sentence for 10 days to allow filing of notice of appeal to a U. S. Circuit Court. Maximum fine under an amendment to the Sherman Antitrust Act that was effective July 7, 1955, is \$50,000, it was explained.

**Redmond**  
**MICROMOTORS**  
One of largest stocks  
in the world!  
FACTORY DISTRIBUTORS  
MARVIN L. "FERGIE" FERGSTAD  
**CYCLO-FREEZE CORP.**  
6318 Cambridge, Minneapolis 16, Minn.  
West 9-6794

## NLRB Denies Refrigeration Mechanics Representation by Pipefitters Local

WASHINGTON, D. C. — The National Labor Relations Board has dismissed a petition filed by Local 725, Plumbers & Pipefitters, AFL-CIO, which sought to represent a unit of five employees engaged in servicing the air conditioning and refrigeration equipment at the 50 retail grocery stores of Winn-Dixie Stores, Inc., Miami, Fla.

The board concluded: "On several earlier occasions the board has denied separate representation to air conditioning and refrigeration mechanics on a craft or a departmental basis, in view of their lack of true craft skills and distinct departmental organization.

"Further," the board concluded, "the fact that employees, in formalized action, expressed dissatisfaction with their collective bargaining representative is not by itself sufficient reason for applying the 'schism' doctrine;

perform work essentially similar to that of the employees in the earlier cases, and under essentially similar conditions, we perceive no valid reason for reaching a contrary conclusion."

Earlier, the NLRB dismissed a petition filed by United Steelworkers, AFL-CIO, finding that the intervener—Lancaster Independent Refrigeration Workers' Union—which has a contract with Lehigh Mfg. Co., Lancaster, Pa., is still a functioning organization.

"Further," the board concluded, "the fact that employees, in formalized action, expressed dissatisfaction with their collective bargaining representative is not by itself sufficient reason for applying the 'schism' doctrine;

for, before applying this doctrine the board must be convinced that the bargaining relationship is so confused that no stabilizing purpose would be served by applying the contract-bar rule.

"In the circumstances of this case we find that application of the schism doctrine is not warranted."

## New Contractor Group Hopes To Tighten Memphis Code

MEMPHIS, Tenn.—Organized a few months ago primarily to exchange credit information, the Memphis Refrigeration, Air Conditioning, and Heating Association now has its sights set on much wider activities, according to Charles Stephens, president.

Tightening of the Memphis

city code and stricter enforcement of it has become a major objective of the group, he indicated. In addition, the association is working closely with parts wholesalers in hopes of improving relations between the latter and contractors, industrial firms, and various institutional accounts.

Membership in the group, as its name implies, has a broad base. As presently organized, the membership includes licensed air conditioning, heating, and refrigeration contractors. Represented among these are service firms, household dealers, and distributors as well as installing contractors, it was pointed out.

Parts wholesalers are associate members.

Besides Stephens, officers are Bruce Hale, vice president, and Max Brainerd, secretary-treasurer.



### DIRECT EXPANSION, STANDARD & NON-FREEZE STEAM, AND WATER COILS

If your need is for finned coils—quality coils—and you need them fast, then write, wire or call us. Halstead & Mitchell's unusual manufacturing facilities give us production control matched by no one in the industry, and you'll benefit by the speed with which we can produce for you.

Halstead & Mitchell's "years-ahead" tooling is matched by "years-ahead" engineering. We are the only company which can offer "Turbu-Flo" fins on these coils. Thus when you order Halstead & Mitchell, you order coils with reserve heat transfer capacity. That's a real safe-performance bonus.

Note that you get this high-speed delivery and extra capacity at a most competitive price. We are large volume manufacturers, and thus can save production

costs which are passed to you in the form of attractive prices.

Want more details? Then write or call, Halstead & Mitchell, Bessemer Building, Pittsburgh 22, Pa.

**HM**  
**Halstead & Mitchell**

Heating, Cooling Institute  
Advise Heating System  
Test Is Comfort Climate  
Produced at Floor Level

LOS ANGELES—The thermostat "should be the watchdog of your heating system," the Institute of Heating & Air Conditioning Industries advises homeowners in a recent announcement.

"If the room temperature at floor level varies more than one or two degrees from the thermostat setting, your heating

**Kitty Napping on Sofa  
'Means Drafty Floor'**

LOS ANGELES—"Why not let the family eat test the adequacy of your heating system?" the Institute of Heating & Air Conditioning Industries suggests to homeowners.

"If kitty takes his naps on the family sofa instead of the rug in front of the sofa, it's a safe bet the floor is drafty," says the institute.

"Greatly improved heating systems developed with the aid of science and research during the past few years cannot only eliminate unhealthy drafts, but make the home far more liveable and increase its sales value."

system is not functioning up to modern heating standards," the institute says.

It also points out that floor level temperatures are the most important during the chill winter months, especially with small children around the house.

"The real test of a modern heating system is what comfort climate it produces at floor level," the institute states. "The most healthful reading there should be 70 to 72, never higher, possibly lower if children are at active play."

**Arco Issues 360-Page Book on 'Installation, Servicing Oil Burners'**

NEW YORK CITY—"The Installation and Servicing of Domestic Oil Burners" by Frank V. Mitchell and Robert W. Mitchell will be published on March 20 by Arco Publishing Co. here.

This 360-page book covers oil burning principles; useful fuel oil information; heating systems; how to figure firing rates; combustion chambers; fuel units-pumps, valves, and filters; oil burner wiring; motors, transformers, and ignition; thermostats, operating and limit controls; primary controls; oil burner installation; chimney, draft, and combustion testing; high pressure, oil-o-matic, G-E, vertical rotary, and vaporizing burners; clean-ups and check-ups; and service tips, it was reported.

Illustrations picture and label burners and burner parts. A dictionary of terms defines special phrases and describes essential elements of the service man's vocabulary. The book sells for \$5, the publisher explained.

**Toledo BBB, Heating Group Warns Of 'Unscrupulous' Contractors**

TOLEDO—New warnings remedied the gas would be from the heating industry, the turned off in 48 hours. Toledo Better Business Bureau, After the new furnace was installed, the old one was examined by another heating firm and a city inspector, Harvey Gavin, and was found to be in good working order.

Provoking the warnings was an incident in which repeated urgencies by a gas furnace installation firm, climaxed by a mysterious telephone warning, induced a 71-year-old woman to have her furnace replaced by a new one at a cost of \$1,370, it was reported.

The phone call came from a man unknown to the woman, attorney, the company which had who said he represented "the put in the new furnace took it gas company." Her furnace was out and replaced it with the old leaking dangerously, he said, one. and unless the condition were

Concern about such tactics, by

a small minority of companies in the field, was expressed at a recent meeting of the Toledo Warm Air Heating Contractors Association, Kenneth Epperson, president, reported.

Any person who feels he is being made the victim of unethical tactics in having a heating system replaced or repaired should check the identity of the firm with the Better Business Bureau, Epperson further remarked.

He also advised getting a second estimate on the job, and calling the city inspection division.

Gavin said he knew of several cases where a minor defect—often nothing worse than "a dirty pilot—was used by an unethical contractor to persuade a customer to order costly repairs or even a new unit.

He called it "deliberate falsifying" of facts about the heating system.

**Better Heating-Cooling Council Names Courter**

NEW YORK CITY—Joseph A. Courter was recently appointed to the board of directors of the Better Heating-Cooling Council to represent the Mechanical Contractors Association of America, Inc.

Courter is head of Courter & Co., Inc., local mechanical contracting firm; first vice president of the Engineers Club of New York and the Building Trades Employers Association of New York City; and president of the Mechanical Contractors Association of New York, Inc.

His appointment brings to 14 the number of industry executives now engaged in directing the activities of the council, an industry-wide promotional group organized early in 1956, it was stated.

**Westinghouse**

**ALL NEW**

**NEW GAS-FIRED BASEMENT UNITS**  
Input capacities from 85,000 to 200,000 BTU/Hr.

**NEW GAS-FIRED COUNTERFLOW UNITS**  
Input capacities from 85,000 to 125,000 BTU/Hr.

**NEW OIL-FIRED BASEMENT UNITS**  
Bonnet output capacities from 85,000 to 134,000 BTU/Hr.

Now, an all-Westinghouse gas and oil-fired heating line that's designed with air conditioning in mind . . . gives Westinghouse Dealers 2 sales opportunities instead of 1! New Westinghouse furnaces are engineered to complement the new '57 air conditioners. Styled in the same smart two-tone color combination, they are natural "Profit-Mates." They give you all the advantages of automatic home heating—plus, the quality-mark of Westinghouse.

**LOOK AT THESE BIG CUSTOMER FEATURES:**

**ECONOMY**—low in initial cost, surprisingly low in day-to-day operating costs. Precast ceramic combustion chamber, sectional heat exchanger, modified ribbon burner design, pressure-atomizing oil burner, and radiation cabinet liner all combine to give maximum heat with minimum fuel.

**ADAPTABLE**—large centrifugal blower permits installation of cooling coil—anytime. Makes it possible to convert economically to year-round automatic air conditioning (using the same ducts) whenever your customer desires.

**QUIET**—full cabinet insulation, resiliently mounted blower and oil burner, hydraulic-silent gas valve, ignitor burner hood, flexible heat exchanger make Westinghouse furnaces *whisper-quiet*.

**STYLE**—finished in beige and charcoal. They are perfect color-mates for the new Westinghouse cooling units

... harmonize with the decor of finished basement and utility rooms. Ripple finish resists scratching and marring.

**AUTOMATIC**—temperature control at the touch of the thermostat . . . delivers desired temperature year-round—safely. (Thermostats are optional for heating or year-round use.)

**SERVICEABLE**—lift-lock panels and observation port (in oil-fired units) give easy access to all components. Permit fast servicing and periodic inspection of all units.

**PREWIRED**—all controls are factory-wired and tested. Oil-fired units are delivered with factory-installed wiring harness for fast, simple installation.

**WARRANTED**—you get all the quality that Westinghouse stands for; plus a liberal 10-year warranty on the heat exchanger and a 1-year warranty on the complete unit.

**A Furnace for Every Location!**

**NEW BASEMENT UNITS**

—gas or oil-fired . . . amazingly compact, you'll find them ideal for installations where overhead clearances are limited.

**NEW UTILITY UNITS**

—gas or oil-fired . . . they are "File-Cabinet-Size." Approved for zero clearance installations in closets or utility rooms.

**NEW COUNTERFLOW UNITS**

—gas or oil-fired . . . specially engineered for perimeter type residential heating systems. Can be easily installed in closet or any out-of-the-way space.

**NEW HORIZONTAL UNITS**

—gas-fired . . . need no floor space. Can be installed in attics, crawl spaces or basements.

## Wholesaler Should Recognize Unit Misapplication, Atlanta, ASHAE Told

ATLANTA — While start-up manufacturer agents, and job-service and trouble shooting are not part of the responsibility of wholesaler, the wholesaler should recognize misapplication of equipment and be sufficiently competent to find this and point it out to the contractor.

That point was made by Albert B. Long, Jr., manager of the Atlanta branch of Noland Co., during a panel discussion sponsored by the Atlanta chapter of the American Society of Heating & Air-Conditioning Engineers here recently.

The panel discussed "The Problems and Policies of Atlanta Jobbers." It was the fourth and last in a series of such discussions covering the four major factors in the industry: consulting engineers, contractors,

Robert F. Holman, president

Long also declared that a qualified contractor should not only be capable of but also assume the responsibility for normal servicing of air conditioning, heating, and plumbing equipment.

He discussed the necessity for definite arrangements regarding surplus materials left over upon completion of a job.

of Cowan Supply Co., discussed wholesaler buying and quoting practices. He opined that the responsibility for making "take-offs" in preparation for quoting a job, time permitting, rests with the contractor. The contractor should make the take-off and submit a detailed list to the wholesaler for a quotation.

He pointed out, however, that in this day of hurry-up bidding, it is many times impossible to handle bids in this way. The responsibility then falls on the jobber salesman or the manufacturer's agent for taking off.

Then, he noted, if the contractor finds any obvious error in quantities, the supplier can be notified and a correction made before the bid date.

Milton A. Ferrell, manager of the heating department of Crane Co., Atlanta, asserted that a good wholesaler functions as the contractor's purchasing agent.

## 400 'Enthusiastic' at Wholesaler's Product Knowledge 'Quiz-Clinic'

DALLAS—An unusual method of offering product knowledge to members of the air conditioning and refrigeration industry was used recently by Texas wholesaler Ray F. Polley of Climate Supply Co. here, with an open house "Quiz-Clinic."

Informal discussions with manufacturers' representatives was the general theme, rather than formal lectures.

Polley and the representatives alike were well pleased with the enthusiastic response of 400 visitors who came, looked, and learned.

The opportunity to "quiz" the factory engineers on installation and other problems was stressed in the huge Texas-size invitations sent to industry members.

A door prize, lunch, continuous product demonstrations, and a magician's hat full of tricks (performed by Dan Anderson of Allied Chemical and Dye) were added attractions for contractors, servicemen, and others attending.

Among companies represented were Sporan Valve, Ranco, Copeland Refrigeration, Alco Valve, and Calgon Water Treating Industries.

New product, according to Arley Baker, is Alco Valve's PO Series expansion valve. New tonnages are PO20, PO30, and PO40 for Refrigerant 12 and 22.

A new heavy-duty commercial control was shown to the group by Ranco's representative, B. C. Melanson.

Sporan Valve's latest is a "Catch-All" for large systems. W. H. Krack explained features of this filter and drier.

## Expert Explains Atomic Research to ASRE Local

EVANSVILLE, Ind. — Dr. Norton E. Berry, director of research at Servel, Inc. until 1954 and now technical director of the Uranium Div., Mallinckrodt Chemical Works in St. Louis, discussed "Atomic Research" at a recent meeting of the Evansville Section of the American Society of Refrigerating Engineers.

Dr. Berry, who served a year with Frigidaire, directed research at Servel that resulted in many improvement in the "All-Year" air conditioner and gas refrigerator, it was noted. He was chairman of the Evansville Section in 1952-53.

In his talk, the expert predicted this country will eventually get most of its power from atomic energy. He expressed the belief the U.S. is wise in not rushing into building of atomic power plants for commercial purposes until further research "has made this type of plant economically feasible."

## Form Mid-Tennessee RSEs Unit

NASHVILLE, Tenn.—A new Middle Tennessee chapter, Refrigeration Service Engineers Society, was recently formed here by a group of servicemen and engineers, the second of the group's two organizational meetings.

Initiated by Roy Angel and Bob Morris of Nashville at Hume Fogg Technical and Vocational school, the group's purpose is for the "furtherance of education and elevation of members in its fields." Officials were named and new charter members accepted at a 7:30 p.m. session March 12.

## Ansul Sales Hit Record High

MARINETTE, Wis.—Total sales of \$14,442,000, highest in company history, were recorded by Ansul Chemical Co. here for the fiscal year ended Oct. 31, the company announced. Sales in 1955 were \$12,690,157.

Earnings for the year amounted to \$465,000, as compared with 1955 earnings which were \$449,000.

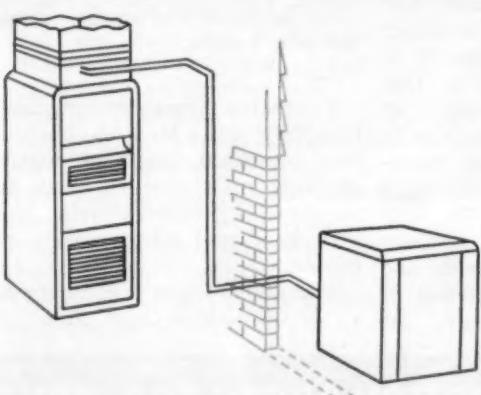
## Furnaces for Home Heating Profits!

**NEW GAS-FIRED UTILITY UNITS**  
Input capacities from 85,000 to 150,000 BTU/Hr.

**NEW GAS-FIRED HORIZONTAL UNITS**  
Input capacities from 80,000 to 140,000 BTU/Hr.

**NEW OIL-FIRED COUNTERFLOW UNITS**  
Bonnet output capacities from 85,000 to 123,000 BTU/Hr.

**NEW OIL-FIRED UTILITY UNITS**  
Bonnet output capacities from 85,000 to 123,000 BTU/Hr.



## Start a Second Sale

with every Westinghouse Furnace you install!

Make 2 sales instead of 1! With new Westinghouse furnaces you can sell your customers heating today—add on air conditioning whenever they desire. It's simple and profitable! The same ducts that are used for heating can be used for cooling... the same thermostat gives them automatic year-round temperature control, too. You simply install the cooling coil in the furnace air discharge and add a Westinghouse air cooled condensing unit to the heating system. Cash in both ways: install a Westinghouse heating system now... use it to sell air conditioning, too!

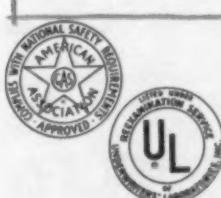
WESTINGHOUSE AIR CONDITIONING DIVISION  
DEPT. IC25, P. O. BOX 510 • STAUNTON, VIRGINIA

YOU CAN BE SURE...IF IT'S

Westinghouse

AIR CONDITIONING DIVISION • STAUNTON, VIRGINIA

J-80637A



## Selling for Profit—(In Residential Air Conditioning)

1. Why Humidity Control Is Important to Humans
2. How To Develop a Sales Approach on Need Basis

By Frank Klein

Let's review some of the most common dramatic effects which can accomplish, in simple fashion, a job of imaginative selling and intelligent sales promotion in your approach to prospects for residential air conditioning.

### HUMAN BODY IS HEAT GENERATOR

The human body is a heat generator producing heat 24 hours of every day. Our bodies are automatic furnaces that work continuously whether we are asleep or awake.

Did you know that in maintaining the 98° temperature of

our bodies, this furnace of ours gives off the equivalent heat of two lighted 100-watt bulbs? If you did know it, have you ever told a stubborn prospect?

Naturally, in cold weather this presents no problem, because there is an opportunity for heat transfer to take place from the skin surface of our bodies to a colder medium—cold air. As a matter of fact this rate of transfer is so great that we pile on heavier clothing to slow the transfer down, so that we may retain some of this heat to maintain body temperature.

The other method we have at our command to equalize the

rate of transfer is to heat the surrounding air to a temperature that will allow normal transfer of these body heat products, to an atmosphere slightly below body temperature. We do this with heat producing equipment of course.

Hot weather is another thing. The ambient temperature of the air surrounding us very often climbs above the 98° temperature of our body, at which time no heat transfer can take place.

### HUMIDITY CONTROL

In cooling we encounter the question of humidity control. Cooling the body in hot weather,

Frank Klein has been associated with the air conditioning and refrigeration industry for over 20 years. An engineering graduate of the University of Michigan, Klein became familiar through work done for the Armed Services during World War II with the medical aspects of properly controlled environments. Since then he has held executive sales positions with a number of air conditioning manufacturers. At present he is a partner in Heidenreich, Klein & Associates of Dallas, marketing specialist.

This series of articles is for those who seek to know the basic "appeals" and principles in selling residential air conditioning. This is the second article in the series which began in the March 18 issue.

to the comfort zone, demands would see you, not you him. If he knew what happens to his, his children's, and his wife's body when it is 90° in the shade and the humidity hovers around 70%, you would not have to look for prospects. All you would have to do is spend the time telling him such facts to start the "fear approach" on the basis of preventive body maintenance.

### PREVENTIVE MAINTENANCE

Are these points bonafide? Don't you believe you can construct explanations to your prospects that will hold water and overcome their objections?

If you are not yet convinced, just pass on and follow these points as we build a case for a "preventive maintenance approach."

#### Point 1

Take nature's way of keeping the body cool. Compare the heart in your body to a compressor, and your blood to a refrigerant. Heat absorption is the product in each case. This increased activity of the heart causes the pulse rate to increase as much as 40% and results in a very great strain on the heart.

All of which can be deadly serious for persons over 35 years of age (and FHA statistics show that the average new homeowner's age is nationally—35 years). It can be still more serious for those who suffer from any heart ailment at all.

In 95° temperatures anything so simple as the task of walking can produce as much strain on the heart as heavy manual labor under more normal temperature.

Remember! Disease of the heart is one of the nation's number one killers!

#### Point 2

Excessive temperatures and humidity cause lack of appetite, poor digestion, headache, lowered body resistance to virus infections, digestive upsets, loss of weight, and other serious illnesses.

Remember your commercial (Continued on next page)



### COMPLETE LINE OF PERFORMANCE PROVED COOLING TOWERS FOR EVERY TYPE INSTALLATION

### HOT DIPPED GALVANIZED After Fabrication



#### RESIDENTIAL and SMALL COMMERCIAL INSTALLATIONS 3-15 TON

Small and compact, this tower has pan cover, expanded metal inlet screen and expanded metal fan screen. The motor and fan are recessed and hot water enters rear of distribution pan. Slow speed fans insure quiet operation. Easily disassembled if necessary.

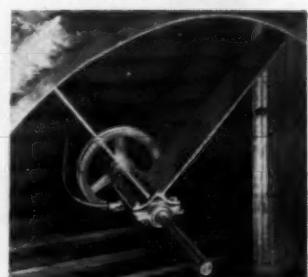
#### LARGE COMMERCIAL AND INDUSTRIAL INSTALLATIONS 20-60 TON

Constructed for easy disassembly, this tower has as standard features a fan screen, belt guard and weather-protected motors. Accessory items at a slight extra cost include a pan cover, expanded metal inlet screen and motor cover.

#### HEAVY DUTY INDUSTRIAL INSTALLATION HAVENS VERTI FLOW 80-150 TON

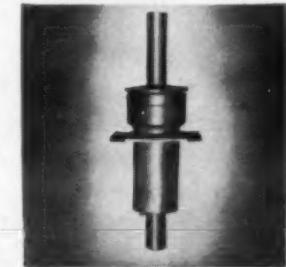
As modern as today's architecture, the low, sleek lines of the Havens Verti Flow Towers blend with building outlines. Fans are all aluminum—variable pitch—and sheaves are corrosion resistant cast iron. Shipped assembled. Also available—175 and 200 ton Verti Flow models—shipped in 3 sections.

#### OUTSTANDING PERFORMANCE MINIMUM MAINTENANCE WITH HAVENS LONG LIFE BEARING DESIGNS



#### 33 SERIES BEARING

Porous bronze bearings in zinc-plated cast iron housing. Stainless steel fan shaft. Extra large oil cup.



#### VERTI FLOW BEARING

Bearing assembly is supported by heavy structural members. All parts are corrosion resistant.

Write for FREE brochures on Havens Series 33 Cooling Towers and Havens Verti Flow Cooling Towers



Division of  
HAVENS STRUCTURAL STEEL COMPANY  
1713 CRYSTAL AVENUE • KANSAS CITY 26, MO.

## MASS PRODUCTION COSTS TOO HIGH?

### NEW "237" LIQUID EYE

Positive Sealing Indicator



(Illustrated 3/8" M. FL. x 3/8" F. FL.)

Here's the ideal low-cost indicator for those hard-to-get-at places.

- smaller—more compact—dependable (about 1/3'd smaller in the 3/8" male to female size than any previous unit).
- complete self-contained economy unit.
- new simplified design.
- available with 2 or 3 viewing ports.

Custom units can be made to your exact specifications. Consult Allin engineers now.

Write today for full information and catalog covering complete Allin line.



ALLIN MANUFACTURING CO.  
410 N. Hermitage Ave. • Chicago 22, Illinois  
Over 1,000,000 Liquid Eyes Sold to Date!

## Selling for Profit--

(Continued from preceding page)

selling experiences. Restaurant owners long ago commercialized on the effect of air conditioning on the human appetite during hot weather. Actual nationwide figures show that restaurants show an average increase in sales of 13.7 cents per meal—after air conditioning; that on the basis of gross sales, they increase their sales as much as 10%. On the basis of tax amortization for installation, owning and operating for 10 years as allowed by the government, the restaurant owners installing air conditioning not only paid for installation, owning and operating, plus maintenance, but were able to show a sizeable profit.

People eat more in restaurants, in air conditioned atmospheres during hot weather. It is as simple as that.

Is it more important that dad eat comfortably and sufficiently at noon, than the wife and kiddies at home? Is it sufficient that dad eat but one meal in such comfort and the wife and kiddies none at all?

### Point 3

Ill effects are common at higher than normal temperatures because the heart pumps less blood to the brain. Don't take my word for it, ask your doctor. At the same time ask him if it is not highly important that the brain have a constant normal supply of blood at all times to function properly.

Better yet, test yourself sometime in a fast moving elevator where the force of gravity on the circulation system is greater than that of the blood to the brain. You should get dizzy.

### 50% MORE CLERICAL ERRORS AT 90°

As factual proof of this, in a recent study made by The American Bank Employees Association, clerks made as many as 50% more errors at 90° room temperatures than they did at temperatures of 74 to 76°, and the errors increased with the rise in humidity.

### Point 4

The loss of salts and minerals from the body lead to fatigue; without time for necessary body repair this exhaustion leads to serious consequences. Why is it that sodium chloride dispensers are standard equipment in foundries, car shops, and other places of hard manual labor? Don't you always find them near the drinking fountains?

Why is the diet of naval firemen and such workers watched closely for mineral and other salts content? For the same reason of importance as it is to you and me. If we are fatigued, we cannot work or perform our other daily functions properly.

Heat in excess of normal body

temperature rejects salts and minerals at such a rate of speed that artificial means of restoration, other than food, must be adopted, or the body will collapse. No one is a stranger to the words—heat exhaustion.

### Points 5 and 6

Lack of sleep due to excessive temperatures, accompanied by excessive humidity, is an experience all of us have gone through. We all know the thieving effects of fitful sleep. Mother knows its effects on children.

However, haven't we all heard at one time or another the objection from a prospect to the effect: "Oh, I don't need air conditioning to sleep. There are really only two or three hot nights in this climate when I really have trouble sleeping."

What he really means is, he

has no trouble "getting to real job of intelligent sales promotion?" If one is exhausted enough he could sleep inside a waterfall, or a foundry.

However, science has definitely established, in sleep habit tests, that unless the body is completely at rest, under normal ambient ranges of temperatures and humidity, it is using up energy comparable to being awake and in normal action. This even though the body be in an unconscious state.

### CONDITIONING LETS BODY REPAIR ITSELF

Thus, the point made here is that with mechanical control of both temperatures and humidity the prospect and his family not only sleep all night but their bodies rest all night, repairing themselves.

Therefore, do these points hold water? Do you see the employment of imaginative selling? The opportunity to do a

To those reading this and already in the field, and those wanting to enter the field of residential cooling, I have one firm belief—you will never get to first base unless you use the health and comfort approach, in creating new business. There will be more about this later.

Thus, I repeat and make the point that by using these typical illustrations of (1) recognizing the NEED factors, (2) developing a sales approach on the basis of the NEED factors, and (3) employing imagination—and doing an intelligent job of sales promotion, one can open the market and make more money with residential air conditioning products.

(To be continued. Next installment: "Where to find people who are ready to buy residential cooling.")

## County Curbs Heating Contractor for 90 Days

TOLEDO—License of Arthur N. Holmes, heating contractor who operates the Holland Furnace Co. branch at 2014 Adams St., was recently suspended for 90 days by Lucas county.

Another Holland Furnace Co. branch is at 1815 Adams St. It is not affected by the suspension.

Eighteen violations of the county building code were charged to the Holland Furnace branch at 2014 Adams, according to Joseph P. Ricacek, chief building commissioner. Nine of them were for doing work without first obtaining a permit.

The suspension means that for 90 days, or until all the violations are remedied, Holmes will not be allowed to do any new work in Lucas county.



Armaflex readily follows contours of piping without special cutting or fitting. Great flexibility of this covering allows easy application, even in close quarters.

ANDY ARMAFLEX says:



## "You can cut labor costs in half with this new pipe covering"

Many users report that Armstrong Armaflex® goes on so fast that labor costs drop 50% to 70%, compared with the cost of applying wrap-on type insulations. Armaflex can be quickly slipped on pipe or tubing before connections are made. Talc coating inside makes application easy. When piping is already connected, Armaflex is slit with a sharp knife, snipped in place, and joined with Armstrong 520 Adhesive.

You can use this new pipe covering to stop condensation on cold lines or to save heat on hot lines up to 200° F. Closed cell structure seals out air and moisture, so no vapor barrier is needed. Fittings are easily insulated with miter-cut pieces cemented together.

Armstrong Armaflex comes in 6' lengths, for pipes and tubing up to 3 1/2" o.d. Free booklet gives full details. For your copy, write to Armstrong Cork Company, 3003 Parsons Street, Lancaster, Pennsylvania.

## Armstrong INDUSTRIAL INSULATIONS

For more information about products advertised on this page use Information Center, page 23.

## MARSH Instruments

THE SERVICEMAN LINE of Testing Gauges, Testing Thermometers, Timers, etc.

PRESSURE GAUGES and Dial Thermometers for all services.

MARSH-ELECTRIMATIC, Water Regulating Valves, Solenoid Valves.

MARSH INSTRUMENT COMPANY  
Sales Affiliate of Jas. P. Marsh Corporation  
Dept. D, Skokie, Ill.

## Shopping Center's Air Conditioning System Features 18 Cooling Towers 3 to 80 Tons Sized to Individual Needs

**Each Tenant Determines Own Power Cost, Need for Replacement or Shutdown**

MISSION, Kan. — Use of numerous, smaller-capacity packaged cooling towers in place of the one large centrally-located tower normally seen on such a structure is a feature of the million-dollar, multi-tenant, integrated Mission Shopping Center located in the rapidly-growing suburban area near Kansas City.

In all, 18 horizontal, induced draft towers manufactured by Dover Mfg. Co. of Independence, Mo. were installed on the roof of the center. They range in size from 3 to 80 tons' capacity (one, 3 ton; three, 7½ ton; two, 10 ton; five, 15 ton; two, 30 ton; four, 40 ton; and one, 80 ton).

### FACTORS LEADING TO DECISION

Many factors led to the decision to use the smaller towers in preference to a single, large-capacity tower, according to Herbert Jacobson, general manager of A. D. Jacobson & Son, the firm that installed the heating and air conditioning systems for the ultra-modern center which opened last August. Foremost among these was the flexibility factor, it was stated.

The cooling requirements for each occupant were determined and a horizontal, induced draft tower of the proper size was selected and installed on the roof above each store within the over-all structure.

"Thus," it was pointed out, "each tenant had his own tower, could determine his own power cost, could replace the tower with a larger one when needed, and could shut down his own tower at any time without disrupting service to other businesses in the center."

All of the towers are of hot-dip galvanized metal—"an important factor in that they will not be affected by rust and corrosion," it was noted.

### MOST TENANTS USE PACKAGED UNITS

The majority of the shopping center's small tenants use packaged air conditioning units of from 3 to 15-ton capacities. The Kroger Co. has a 30-ton packaged system.

The other tenants use central systems with reciprocating compressors.



SEVEN of the 18 packaged cooling towers used atop the Mission, Kan. Shopping Center may be seen in this view of one wing of the building. Each tower is sized, capacity-wise, to the individual needs of the tenant.

## 100 Attend Oklahoma Air Conditioning Course

## Exhibitors Announced for Nashville Electric Show

STILLWATER, Okla. — Oklahoma A&M's sixth annual summer-winter air conditioning short course was held recently with more than 100 air conditioning dealers, salesmen, and shopmen attending, it was announced.

The course, which was held in the student union, offered a fundamental approach to everyday installation and operation problems in summer and winter air conditioning, the college explained.

Prof. R. R. Irwin, mechanical engineer, was coordinator for the program, the school pointed out.

NASHVILLE, Tenn. — Exhibitors for the 1957 Electric Show April 29-May 3 at Nashville Electric Service have just been announced by W. D. (Bill) Hall, sales promotion manager of the firm.

They include Central Air Conditioning & Heating, Inc., Coolstream Corp., Frigidaire Sales Corp., G.E. Supply Co., Hotpoint Appliance Sales Co., Mathes Air Conditioning Co., Wilson Electric Co., Radio & Appliance Corp., Sears Roebuck & Co., White Appliance & Heating Co., Appliance Distributors, Inc., and Braid Electric Co., it was added.

*Now! One source for the kind of comfort your home and*



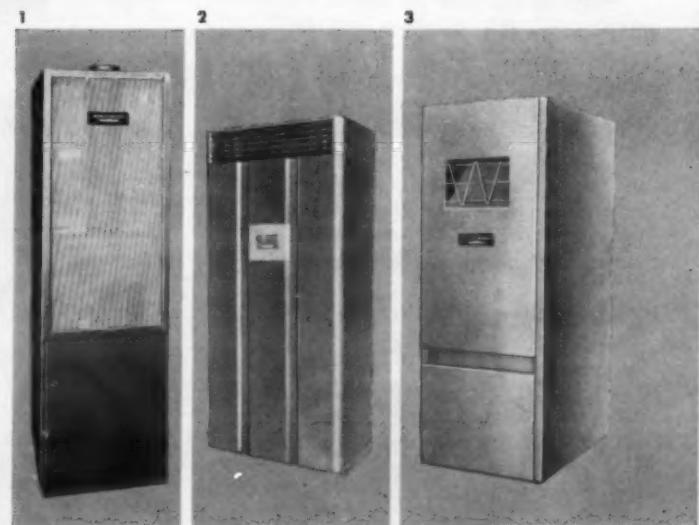
## Complete heating and cooling

With Worthington equipment you can bid—and win—on every job. Reason: Worthington has the most comprehensive line of heating and cooling equipment on today's market. There's a type and size for every home or business—and for every region of the country.

The units shown here are typical of the superbly engineered equipment found in the dependable Worthington heating and cooling line. For full details, write: Worthington Corporation, Dept. AC, Harrison, New Jersey.



A7.38



**MIGHTY MITE MOTOR PROTECTORS**

**FOR MOTOR OVERLOAD PROTECTION**

**MECHANICAL INDUSTRIES PRODUCTION COMPANY**

223 ASH STREET • AKRON, OHIO

## Air Conditioning Halts Telescope 'Air Blurring'

LONDON, England—Air conditioning has found still another useful application.

A 36-in. telescope at the University of Cambridge is designed with air conditioning to reduce distortion, called "air blurring," caused by mixing of warm indoor air and cold night air above the observatory and in the telescope tube.

The blurring caused light rays to be bent or irregularly refracted, materially reducing the range of the observatory's telescope.

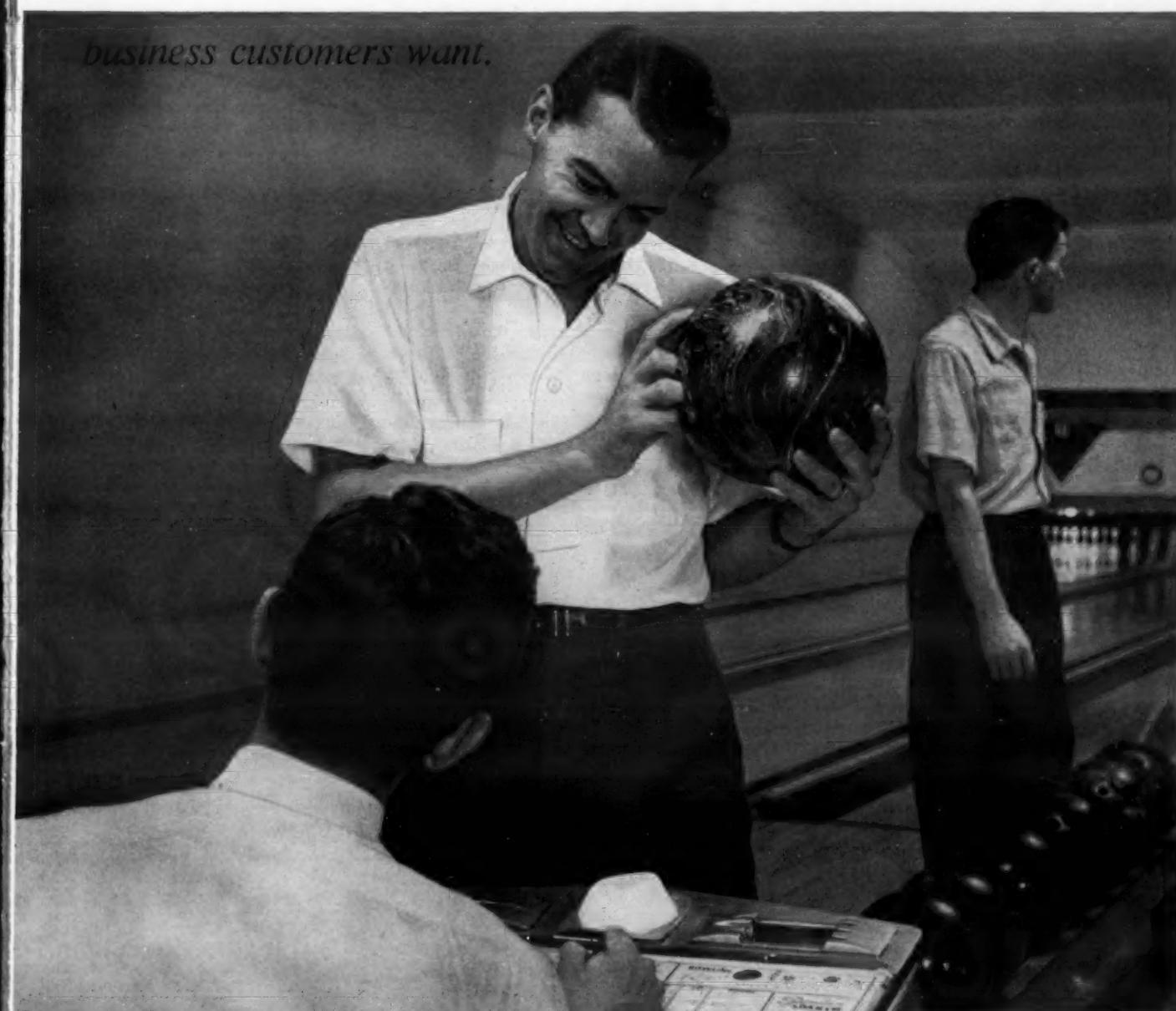
As a result of the more uniform temperatures made possible by air conditioning, blurring has been materially reduced and stars that previously were out of range have been photographed successfully, it was reported.

## Dissolve Partnership, Continue Cooling Firm

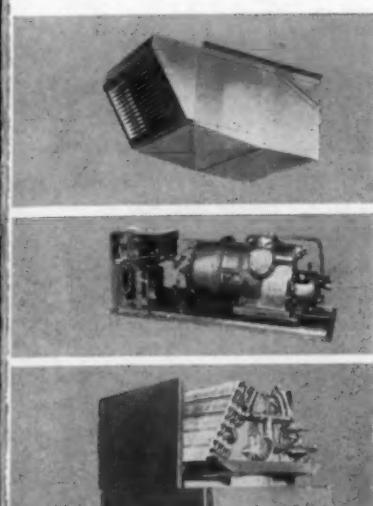
NEWARK, N. J.—Dissolution of the partnership of Air Conditioning Associates and continuance of the air conditioning, heating, and ventilating business under the name of Air Conditioning Associates, Inc. was announced here recently by Peter J. Enokian and Edward Sudfield.

Business will be conducted at 265 E. Kinney St.

*business customers want.*



## line by WORTHINGTON



1. **Counterflow Warm Air Furnace**—Perfect for perimeter heating or any installation where it is desirable to deliver heated air from bottom of gas or oil-fired furnace. A.G.A.-approved for natural, mixed and manufactured gases. Direct or belt driven motors. 80,000 to 150,000 BTU Input.

2. **SCY Packaged Air Conditioner**—Adjustable louvers permit multi-directional air flow. Units offer air or water-cooled systems—can be installed with or without ducts. Insulated for quiet, efficient operation. Field serviceable hermetic compressor makes minor repair work possible without serious delay. 3, 5, 7½, 10, and 15 ton models.

3. **High-Boy and Low-Boy Warm Air Furnaces**—Can be readily and inexpensively put in basement or utility room for perimeter, conventional, small pipe or other installation. Gas or oil-fired A.G.A.-approved for natural, mixed, manufactured or propane gases. High-Boy units, 80,000 to 220,000 BTU Input sizes. Low-Boy units,

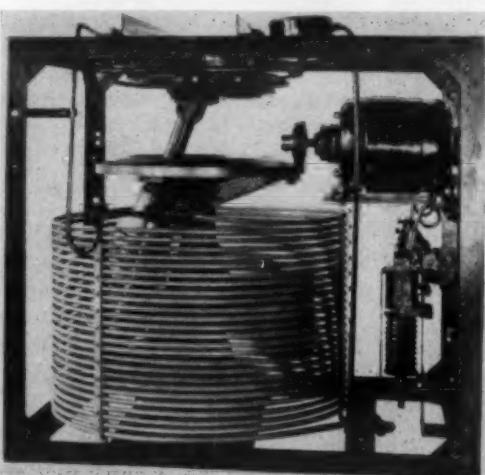
100,000 to 235,000 BTU Input sizes. **Horizontal Units**, 80,000 to 250,000 BTU Input sizes.

4. **Flexi-Cool Air Conditioner**—Exclusive sectional construction permits vertical or horizontal installation on floor or ceiling . . . and in basement, closet or crawl space. Components can even be installed apart from each other. Air or water-cooled systems. 2, 3, 5, 7½ ton models.

5. **Water-Cooled Condensing Unit**—A packaged condensing unit for all remotely installed water-cooled systems. Can be installed with or without panels in crawl space, attic, carport, garage or out-of-doors. Insulated and protected from dust and corrosion. 2, 3, 5 and 7½ tons.

6. **"V" Type Duct Coil**—A Worthington "V" Coil can be mounted in main riser of forced warm air furnace and connected to remote condensing unit for summer air conditioning comfort. If customer wishes, cabinet can be put in with new furnace and coil installed later. 2, 3, and 5 ton models.

## Recold Museum Seeks Early Refrigerating Machine



AN intensive search is under way at Recold Museum of Air Conditioning and Refrigeration Equipment of Los Angeles to locate a Savage "Mercury" refrigerating machine shown here for addition to the Museum. Photo of the unit was taken from a Household Refrigeration Manual printed in the '20's, another item in the Museum.

LOS ANGELES—The Recold Museum of Air Conditioning and Refrigeration Equipment has an intensive search under way to locate a Savage "Mercury" refrigerating machine.

An antiquated unit based on a design invented by Archimedes in 250 B. C., it is considered one of the first refrigerating machines to operate automatically at the most efficient speed for all temperatures.

The search initiates a concentrated campaign to locate specific units which are considered collector's items and would make valuable additions to the museum, reports H. T. (Hy) Jarvis, founder of the museum and president of Recold Corp.

Manufactured by Savage Arms Corp. in Utica, N. Y., this Savage machine operates on a system of mercury compression featuring the utilization of the screw pump which Archimedes invented, it was pointed out. Distributed as late as 1927, the machine was suitable for ice cream cabinets and household application.

The campaign to locate the machine is being conducted throughout the nation and in some places abroad, explained Jarvis. Anyone with information as to where one of these units might be obtained is asked to contact Jarvis at the Recold Corp., 7250 E. Slauson, Los Angeles 22, Calif.

The Recold Museum was established in 1955 by Jarvis as a sort of Smithsonian Institute of the air conditioning and refrigeration industry and since that time 40 different units and component pieces of equipment have been collected and placed in the museum.

Units and parts in the museum, which have come from as far north as Canada and as far east as China, include the original Alco Ammonia thermostatic expansion valve, an Oriental pressure gauge, a "Socold" compressor used in the early 1920's, a fan dating back to the 1890's which is operated by the heat of a kerosene lamp, and a Crosley "Icyball" refrigerator.

## Tucson Instrument Builds Air Conditioned Facility

TUCSON, Ariz.—A 10,000-sq. ft. plant being built for Tucson Instrument Corp. will provide completely air conditioned facilities for the manufacture of potentiometers, electronic test equipment, and other products related to missile electronics and the aviation field, it was announced recently.

The newly-organized firm, located adjacent to the municipal airport, will employ about 100 persons in the plant now nearing completion.

Frank R. Perier has been elected president and treasurer of the concern. He resigned as vice president and general manager of Technology Instrument Corp. of Acton, Mass. to take up his new duties. Louis A. Wilson, Jr. was named vice president in charge of sales.

Production will get under way in this new plant immediately. An access air strip to the municipal airport will provide convenience for air travel to the plant.

## Inside Dope

By GEORGE F. TAUBENECK

(Concluded from Page 1, Col. 1)  
his city counterpart. A farmer can process and store the food he raises and freezes with very little cash outlay.

Figures segregated from the 1954 Census of Agriculture provide a closeup picture of the home food freezer market in rural and farm communities. At that time nearly a third of the farm homes in the United States owned freezers. That compares with a national average of only 15% of the city homes equipped with freezers.

Of the more than 1,540,000 farm homes with home food freezers, 54% are in these 15 farm-belt states: Nebraska, Kansas, Texas, Minnesota, Iowa, Missouri, Oklahoma, Colorado, Indiana, Ohio, Michigan, Wisconsin, Illinois, North and South Dakota.

### Broad-Humored Americans Are Broad-Minded

"You don't say a person is painted, or wallpapered when he is drunk," memoed the Lath & Paster Institute, "so why say he is plastered?"

This mild nudging by an organized minority group is typical of the remarkably few protests (three in the last dozen

years) "Dope" receives about the jokes we print.

Americans obviously aren't thin-skinned about humorous allusions to their professions, religion, race, names, or anything else. And that attitude, we submit, is healthy.

Truly, this refusal to take ourselves seriously could be an overriding, all-embracing reason why the United States is the most tolerant and generous nation in world history.

### Where's Their Funnybone?

According to Malcolm Muggeridge, editor of the venerable English "Punch" (most successful and longest-lived humor publication of all time):

"Any satirical barb which evokes nationwide smiles is almost certain to bring an accusation of 'bias,' 'offending a minority' or being 'guilty of execrable taste.' Humor is the only thing about which English minorities are utterly serious."

A clever cartoon sequence in "Punch" exhibits two members of a stuffy British club curled up in its library. Member A is guffawing at the comics, Member B scowling darkly over an economic report. The two trade reading matter. Member A laughs heartily at the economic report, Member B is depressed more than ever by the comics.

Apparently the world is full of "Member A's."

However, the relatively few "Member B's" (who take life with such desperate seriousness) comprise a minuscule fraction of American citizens whose "touchy" sensitiveness becomes a problem. Their fractionated fractiousness is almost unobservable in our wonderful U.S.A.

Recently we tuned in on Arthur Godfrey's morning program in time to hear him say: "Like the dairy maid who sat down in a tub of butter, I'm getting a little behind in my work."

A self-appointed censor might deem that poor joke to be in execrable taste and offensive to women - in - general. He'd be wrong. Godfrey commits that sort of thing five days a week. And he's won (and holds) the biggest audience of WOMEN (umpteen millions)—any male talker in the world's history ever has commanded.

You see, Godfrey realizes instinctively that people who are offended by jokes on themselves—or jokes of any kind—are such a tiny few that they don't count.

Thanks to a possibly misspent youth, it has been the writer's good fortune to know intimately several noted comedians. "Dope" double-dated with Bob Hope, for instance, when Bob courted Dolores Reade (his one and only wife). Many is the time he sat up all night with Jimmy Durante, Edgar Bergen, Joe E. Lewis, Ken Murray, Jerry Lewis, George Jessel, Jonathan Winters, and Milton Berle in years long gone past.

Naturally, those comedians "talked shop."

From these professional funny fellows we learned that there's one compound subject which nearly every American loves, laughs at, and doesn't resent, to wit:

### Race-Religion-Nationality.

All these are close to his heart. At the same time they tickle his funnybone.

### Why We Are Democratic

Earliest indigenous American humor (minstrel shows and vaudeville) were based upon Race and Religion, wherein Negroes, Scots, Dutchmen, Swedes, Catholics, Jews, and Protestant preachers were inexhaustible subjects for laughable skits.

Later: radio and TV gaffaw-getters (also banquet-speakers) have capitalized upon this surefire subject of the humor inherent in Minority Groups. People are flattered by a jokester who singles out their affiliations. Only professional promoters of class hatreds are offended by such references.

The fact is: Catholics, Protestants, and Jews in the United States of America unite on one thing, at least:

*They love jokes on themselves.*

Ask any professional comedian who is paid \$5,000 a week at the Chez Paree in Chicago or the Copacabana in New York (where Jewish folk own the best seats—and the "house" too). To endear yourself to a Jewish audience, tell them jokes about Jews—preferably with an accent. Lou Holtz, Eddie Cantor, and George Jessel got rich on that formula.

Ask the presidents of Catholic universities (Notre Dame, Holy Cross, U. of D., Fordham) what anecdotes go over best at their alumni or athletic banquets—and they'll tell you such stories as:

Mighty hot day in Texas when Notre Dame came out to challenge Southern Methodist university. SMU passed its way to a two-touchdown lead, and Notre Dame called for a time-out. Whereupon the South Bend trainer dashed water into the perspiring faces of his boys.

"Now that's unfair," a Methodist minister teased his Catholic priest guest. "We don't

possess any Holy Water."

"Father," penitented a Fordham guard at the Confessional, "I swore in our last game. It was like this...."

And then he recounted the episode in vivid detail, building up the suspense, and concluding:

"So I shouted: 'Where in Hell is the ball?'"

Carried away by that suspenseful story, the confessional priest himself raised his voice excitedly:

"Well, where in the Hell was it?"

### Tolerance Needs Humor

Catholics, Jews, small Protestant sects, colored folk, and graduates of Yale-Princeton-Harvard are sometimes feared or ostracized (for identical psychological reasons) in these United States of America.

Yet, nowhere in the world are racial-religious or snobbish minorities treated so well and so nearly as Equals as they are here—in this best of all possible Republics.

Why? Because all Americans love to laugh with so-called religious, minority or snob-type jokes.

Whenever a public speaker can tell an anecdote which combines a Catholic Irish politician, a Jewish merchant in New York, an innocent small-town Methodist from the Midwest, and a Bourbon Baptist from the Deep South—and shift from one dialect to another—he makes everybody in his indigenously American audience fall off his chair laughing.

Truly, this wondrous interaction of humor—at the expense of (thank God!) rarely sensitive minorities—is the secret of America's "melting pot" democracy.

Those lonesome oddball individuals who are offended by "minority-type" jokes simply don't realize how and why America has grown great through the tolerance fostered by friendly good humor.

## ACCURATE HIGH & LOW Pressure Cutouts

Allen-Bradley Bulletin 836 cutouts are accurate, compact units which handle a wide range of pressure applications... from 30 inches of vacuum to 700 psi.

These precision switches have no "dead center" and no bearings to stick and cause delay in performance... switch action is positive, and the pure silver contacts are good for millions of operations.

Write for A-B Bulletin 836-837... we will gladly send you one.

Allen-Bradley Co.  
1313 S. First St., Milwaukee 4, Wis.

In Canada—  
Allen-Bradley Canada Ltd., Galt, Ont.



High & low pressure units in same enclosure... cover is removed.



The Sign of  
QUALITY  
MOTOR CONTROL



**HEAT-X, Inc.**  
BREWSTER • NEW YORK

For more information about products advertised on this page use Information Center, page 23.

## Now Representing...

Marco Industries, Inc.—ROLAND BOREHAM CO., Los Angeles, will represent the firm in southern California, southern Nevada, and Arizona. With four sales engineers, Boreham has covered this territory for the past 15 years.

Marlo Coil Co.—Appointment of FRIEMEL-LOVE CO. as sales representative for Marlo air conditioning and heat transfer products in the St. Louis, eastern Missouri, and southern Illinois territory was announced. Principals are Otto A. Friemel and Norman M. Love, Jr., both previously with N. O. Nelson Co., St. Louis.

Gibson Refrigerator Co., Div. of Hupp Corp. — MAYFLOWER SALES DIV., St. Louis, has been appointed new full line distributor. It will distribute Gibson appliances in 53 counties in eastern Missouri and 37 in southern Illinois.

SUN APPLIANCE & ELECTRIC, INC., Abilene, Texas, has been added as a Gibson full line distributor for 78 counties in northwestern Texas; Curry, Quay, Roosevelt, and Union counties in New Mexico; and Beaver, Cimarron, and Texas counties in Oklahoma.

Marquette Appliances, Inc. (Minneapolis) — LAPPIN ELECTRIC CO. will distribute Marquette's line of refrigerators and freezers in Wisconsin and upper Michigan.

Amana Refrigeration, Inc. — WASHINGTON WHOLESALERS, INC., Washington, D. C., has been named air conditioner distributor there and in surrounding counties—seven in Maryland, five in northern Virginia, and two in eastern West Virginia. Amana of Washington, Inc., Alexandria, Va., will continue to handle distribution of Amana freezers and refrigerators in the same territory.

Amana also named MODERN DISTRIBUTING CO., Cincinnati, to distribute freezers, refrigerators, and air conditioners in 18 counties in Ohio, Indiana, and Kentucky.

INTRASOUTH DISTRIBUTING DIV. OF INTERSTATE ELECTRIC CO. of New Orleans, Shreveport, La., will distribute Amana upright and "Deepfreeze" chest freezers, freezers-plus-refrigerators, and built-ins in 26 northern Louisiana and seven eastern Texas counties, and Miller County, Ark.

Norge Div., Borg-Warner Corp.—GRAYBAR ELECTRIC CO., Pitts-

burgh, has been appointed distributor for western Pennsylvania, eastern Ohio, and northwestern Virginia. Dealers in 23 counties in these states will be served by Graybar.

Dyfoam Corp.—Two new distributors have been announced by this manufacturer of expanded polystyrene insulation in long slab form.

INSULATION DISTRIBUTORS, INC. of Buffalo and Syracuse, N. Y., and ROCHESTER INSULATION, INC., Rochester, N. Y., will sell and service the western and central areas of New York state. The Buffalo office will fabricate and sell pipe covering throughout the state.

Reveo, Inc. — INTERSTATE ELECTRIC CO., New Orleans, has been named Reveo distributor for its area.

Deming Co. (Salem, Ohio)—Appointment of WILLIAM T. GIBSON as sales representative in the north central states was announced

by this maker of industrial and commercial pumps and water systems. He will call on distributors and dealers in western Wisconsin, Minnesota, North and South Dakota, and Montana. He will also conduct classes of pump instruction for both dealers and jobbers.

ROBERT KALTENBACH has been named factory sales representative in eastern Wisconsin and northern Illinois.

Allis-Chalmers Mfg. Co.—FRIEMEL-LOVE CO., St. Louis, was appointed distributor of Allis-Chalmers motors and pumps to contractors and users in the heating, air conditioning, and ventilating industry in five western Illinois and four eastern Missouri counties. They include Calhoun, Jersey, Madison, St. Clair, and Monroe counties in Illinois, and St. Charles, St. Louis, Jefferson, and St. Francis counties in Missouri.

LOF Glass Fibers Co.—EDWARD J. BODETTE, JR. has been appointed a field representative in the Detroit area and will report to J. B. Banks, central regional manager there. He was associated with Quaker Rubber Co.



A COMPLETE direct mail program consisting of a series of three mailings each for commercial and residential prospects has been approved by J. L. Johnson, vice president of Gibson Refrigerator Co., shown at center as the promotion is presented him by Dalton P. Fox, direct advertising and sales promotion consultant of Detroit, who designed the series. J. B. Croskery, assistant to Johnson is seated at left.

### Briton Invents Turbine Engine Propelled by Refrigerant

MANCHESTER, Eng.—First by a cylinder of commercial notice of an invention by a bottled gas, with auxiliary heating—British refrigeration engineering from elements energized by that would use a "Freon" refrigerant in a closed system to batteries, according to the newspaper. the auto's generator and provide vapor pressure to drive a turbine engine in motor. Due to the gasoline shortage vehicle propulsion was carried resulting from the Mideast crisis, the Ministry of Transport has asked further information.

Heat is applied to the boiler

DRYSEAL's the tube to use! Its double crimp is same size as tube diameter.

Slips easily through fittings. Keeps the mirror-smooth I.D. bone-dry, whistle-clean. Dead-soft DRYSEAL bends without tools. Flares without splits. Try economical DRYSEAL on your next job.

## Tube-Size crimp



Trying to find  
the right man for a  
hard-to-fill vacancy—  
the NEWS' Classified  
Ads are read by your  
man.  
Place your ad today!

# Revere Dryseal

COPPER REFRIGERATION TUBE

You'll find a Revere Distributor close at hand.

REVERE COPPER AND BRASS INCORPORATED, founded in 1801 by Paul Revere

For more information about products advertised on this page use Information Center, page 23.

Trade Mark  
reg. U.S. Pat.  
Office;  
Est. 1926

AIR CONDITIONING & REFRIGERATION NEWS

Copyright  
1957,  
Business News  
Publishing Co.

F. M. COCKRELL, Founder

**The Conscience of the Industry'**

Published Every Monday by BUSINESS NEWS PUBLISHING CO., 450 W. Fort St., Detroit 26, Mich. Telephone Woodward 2-0924. Subscription Rates: U. S. and Possessions and Canada: \$6.00 per year; 2 years, \$9.00; 3 years, \$12.00. All other countries: \$10 per year. Single copy price, 40 cents. Ten or more copies, 30 cents; 50 or more copies, 20 cents each. Send remittance with order.

EDITOR & PUBLISHER,  
George F. TaubeneckEDITORIAL DIRECTOR,  
Phil B. RedekerASSOCIATE EDITOR,  
C. Dale MericleASSISTANT EDITORS:  
John Sweet  
Hugh Maher  
George Hanning  
Robert Lacey

RESEARCH MGR., John MacLean

PRESIDENT, Edward L. Henderson

ADV. MGR., Robert M. Price

WESTERN ADV. MGR.,  
Allen Schildhamer

ASST. ADV. MGR., Joe Sullivan

ADVERTISING REPRESENTATIVES:  
Rex Smith  
William ZurkanADVERTISING OFFICES:  
New York, 521 Fifth Ave.  
Murray Hill 2-1928-9  
Robert M. Price  
William ZurkanChicago, 134 S. LaSalle St.  
Franklin 2-8093  
Allen Schildhamer  
Rex SmithDetroit, 450 W. Fort St.  
Woodward 2-0924  
Joe SullivanLos Angeles, 4710 Crenshaw Blvd.  
Axminster 2-9501  
Justin Hannon

Member, Audit Bureau of Circulations. Member, Associated Business Publications.

VOLUME 80, NO. 12, SERIAL NO. 1,461, MARCH 25, 1957



## Vending Machines Comprise A Big New Hope For Commercial Refrigeration

Too many commercial refrigeration sellers are moaning that their business is on a "dead level."

No future, they say. Really, they should look at the unexplored "acres of diamonds" in their commercial refrigeration backyards. For example:

Refrigerated food vending is coming close to glory.

Last year 12% of the nation's packaged ice cream, 14% of its milk, 20% of its candy, and 25% of all carbonated soft drinks were purchased from refrigerated vending machines.

Additionally, frozen meals are vended in greater numbers annually.

**Automatic vendors have taken over** the complete feeding job in many industrial plants and offices. In a typical automatic cafeteria, you'll find several kinds of soup, meats, pastries, ice cream, and beverages—pre-frozen and automated.

Also, commercial refrigeration manufacturers currently are developing refrigerated vending machines to provide last-minute breakfasts, lunches, and dinners to housewives, as well as to their downtown husbands.

**THIS IS COMMERCIAL REFRIGERATION.**

Are YOU, Mr. Subscriber, getting your share of this business?

Top profit items for retail frozen food vendors include packaged frozen specialties (like chicken breasts, shrimp, etc.). Per square foot of store space, gross profit margins for these frozen specialties are considerably higher than for canned goods or fresh produce. By 1960, it is predicted, frozen foods will account for at least 20% of chain store volume.

**Approximately 250,000** independent grocery stores possess frozen food departments. Yet, 75% of that frosted stuff is sold through supermarkets. Why? Because commercial refrigeration dealers have been slow to pick up the ball, and show independent stores how to compete. (See story on pages 18-19 of this issue). Other stump-stirring facts:

Presently 300 million cubic feet of low

temperature warehouse capacity swallows frozen food production at the 1955 rate of output. Low temperature transportation also has burgeoned excitingly. Another freezing revolution has occurred at food-producing level. Outstanding example: the Florida orange crop—85% of which now leaves the state as frozen orange juice concentrate. Freezing absorbs 45% of the strawberry and broccoli crops, 37% of the spinach, and 60% of lima beans.

**Traditional family farming**, with crops staggered to meet market demand, has been replaced by enormous farms operated as mechanized frozen food factories. Their harvests are geared to a new dimension—freezing and packing facilities and needs.

Retail competition among frozen foods is rough, incidentally. While the battle for limited retail display space continues, many small firms are losing ground. Dominant brands are emerging to control the market and to command premium prices. Hence, independent packers are encouraging their outlets to expand and to improve their refrigerated facilities.

**Too often a neighborhood retailer** may store frozen food in an open back room for several hours before putting it in an inadequate display case, they complain. To match chain store competition, the Ma-and-Pa store must install self-serve frozen foods display cases.

The hint that irradiated foods may wipe out freezing seems to be a pipe dream. Although limping progress is being made in sterilization by this technique, unsolved problems are so complex as to quiet the fears of refrigeration experts. Example: irradiated steaks taste like, er, pig-garbage.

Meanwhile new refrigerated developments such as the coating of frozen meats with wax for easier identification and lower handling costs, may contribute brightly to the expected expanding demand for "heat and eat" frozen breakfasts, lunches, and dinners.

Mr. Commercial Refrigeration Dealer:  
Your business just seems to be moribund.

Actually, it's fermenting a yeasty flagon of vitamined brew for you.

**OFF THE CHEST**

**FRIGIKAR OBJECTS TO SURVEY 'STANDING'**

Frigikar Corp.  
Dallas, Texas

Editor:

With reference to our telephone conversation of this date, March 12, regarding your article in your March 4 issue relating to automobile air conditioner sales for 1956 by the independent manufacturers, this is to certify—which would be subject to audit—that we manufactured and sold 14,128 units during the year of 1956.

This certainly would have put us in second place, however, I am enclosing photostatic copy of letter sent out to all Mark IV Distributors, dated Sept. 4, 1956, in which they estimate that they sold 12,500 units.

However, in the third paragraph they estimate that approximately 1,000 basic units were in current unsold inventory. Secondly, the number of units that they had received warranty cards on as of Aug. 31, 1956 showed installations of 9,564.

We feel that in placing the in-

dependent manufacturers as you have in ratings 1, 2, 3, et cetera, that in the future if they are to receive such publicity you should require a CPA certification of such number of units sold.

Further, since such ratings would be considered "prestige" ratings, before such publication is made approval of such publicized statistical figures should first be obtained from the manufacturer.

We are enclosing a glossy print of our latest Frigiking unit. We are planning our production this year in the amount of 25,000 units. Whether that production schedule will be fully realized will depend upon the demand which, at this time, seems justifiable.

Bill Lind sends his best regards.

BERT J. MITCHELL,  
President

P.S. Our total production for 1956 was in excess of 15,000 units—the figure of 14,128 represents number of units actually sold by us.

**Handy Way to Subscribe****To See the Industry In Action EVERY WEEK**

Keep up-to-date on what's going on in your industry. You'll see action weekly in AIR CONDITIONING & REFRIGERATION NEWS. Covers latest news and gives you top how-to-do-it reports on commercial and residential air conditioning, commercial and home refrigeration: manufacturing, contracting, distributing, retailing, and servicing. Read the Industry's newspaper for profit every week. Only \$6.00 per year, 52 issues (U.S. and Canada). Foreign: \$10.00 per year.

AIR CONDITIONING &amp; REFRIGERATION NEWS

3-25-57

450 W. Fort St., Detroit 26, Mich.

Gentlemen: Send the NEWS every week for one year.  \$6.00 enclosed  
 Bill me  Bill Company.

Name.....

Company.....

Street.....

City ..... Zone ..... State .....

IMPORTANT: Company's Type of Business.....

## Working Only Through Distributors Is New Coldmobile Marketing Policy

BLUE ISLAND, Ill.—Coldmobile Div., Union Asbestos & Rubber Co., has taken "positive action to work entirely through distributors," according to D. N. Quamme, sales manager.

The division manufactures truck refrigeration equipment.

Describing Coldmobile's new marketing policy, Quamme stated:

"We are extending contracts to selected concerns throughout the country, and offering to these distributors discount schedules which permit them to show a profit.

"The company will make quotations when requested, but in accordance with a rigid price schedule. The distributor will know this schedule, and can be assured that he will not be undersold by factory salesmen.

"The advantage thus belongs entirely to the distributor. With the factory quoting prices identical to those of the distributor the extra service that the distributor can provide should assure his obtaining the business.

"Conflict could develop when orders are placed in one franchised territory for shipment to another, but Coldmobile makes provision for this condition through its unique service-inspection program.

"Every Coldmobile customer," Quamme stated, "can take his equipment to the place of busi-

ness of any franchised distributor regardless of who made the sale, and for a period of 30 days from date of shipment receive free instruction in the maintenance of the unit, free parts and free labor if required, free adjustment if needed. After the 30-day period the standard company warranty becomes effective.

"The distributor who performs the service-inspection on a unit sold by another distributor cannot be expected to perform the work without compensation, and for this reason we have established a fixed service-inspection fee to which he will be entitled upon certification of inspection."

Quamme concluded: "Greater plant quality control, sales through franchised distributors, emphasis upon customer service, and provision for product improvement to meet customer determined needs—this is the Coldmobile program for 1957."

### Utility Reports Sales

SPOKANE, Wash.—There were 123 central systems and 1,478 room air conditioners sold during 1956 in the area served by Washington Water Power Co., for a total of 1,601, it was disclosed.

In addition, there were 9,113 refrigerators and 4,804 food freezers sold during the year.

*in how many combinations  
do manufacturers use*

## SUPER-FLO FILTER-DRIERS?



More than 100 manufacturers specify Super-Flo Filter-Driers as original equipment, often combined with some other Remco component.

The manufacturer rush to Remco Super-Flo began as a result of . . . low cost . . . massive depth filtering to remove foreign particles . . . peak drying efficiency at liquid line temperatures through 150°F . . . acid control . . . and no measurable pressure drop!

The U/L approved steel shell makes a fine receiver. With it can be combined a Remco Liquid Indicator . . . Check Valve . . . or Safety Device.

All Super-Flo Filter-Driers and combinations are tested, dehydrated and moisture-vapor sealed for your protection. Write for low net prices and Bulletin R-11 for details.

AVAILABLE TO THE TRADE THRU WHOLESALEERS EVERYWHERE

**REMCO INC.**  
ZELIENOPLE, PA.

STANDARD

For more information about products advertised on this page use Information Center, page 23.

## Report Uniform Rating Progress On Trailers, Refrigeration Units

CORONADO, Calif.—Progress is being made toward development of a uniform method of rating insulated trailers and refrigeration devices so manufacturers can recommend with confidence installations and vehicle types with sufficient capacity to handle trailerloads of frozen or chilled cargoes and still leave a safe margin.

This was reported at the 16th annual convention of the Truck-Trailer Manufacturers Association in the Hotel del Coronado by L. H. Magor, chairman of the TTMA Refrigeration Committee and president of Aluminum Body Corp., Montebello, Calif.

How fast and to what extent a truck-trailer will absorb heat was discussed by the committee during the convention. Last year, it was noted, over 5,000 refrigerated trailers were produced to join a vehicle fleet of over 40,000 now in use.

During 1956, it was explained, the Refrigeration Committee centered its sights on development of "better understanding" of the need for uniform method

### Whiting Adds 145 New Electric Refrigerated Milk Delivery Trucks

BOSTON—As part of an extensive fleet modernization program, Whiting Milk Co. here recently completed purchase of 145 new electrically-refrigerated delivery trucks, according to L. A. Parks, company engineer.

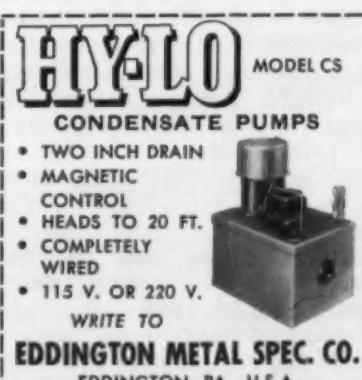
"Already the largest single user of all-electric truck refrigeration, Whiting expects to so equip its entire fleet within the near future," it was reported.

The all-electric system was installed on Whiting's trucks by Frank-Dewey Co. of Detroit. Named "Rovan," the system is powered by special electrical components made by General Electric Co.

Important advantages of the new truck refrigeration system listed by Whiting were fast loading, dry refrigeration, a high degree of cleanliness, and ample protection for products packaged in paper.

"Fully automatic and thermostatically controlled for constant temperature regardless of weather, the system is adaptable to any type truck body and engine speed range," it was stated.

"In operation, the alternator, belt-connected to the engine crankshaft, supplies a constant source of power—even at idling speeds. This is rectified to 90-volt d.c. power for operation of the compressor and evaporator fan motors."



objective of maintaining zero although parked in a lot in the hot sun, it was explained. At times the trailers roofs registered 135° while zero was being maintained inside.

In October in New York City at the national meeting of the trucking industry, the Bureau of Standards came up with something that gave hope to researchers, it was said. This was a method of testing for heat infiltration during actual refrigeration. Moreover, the Bureau was able to show its method both by a static model and an actual working model.

### Appliance Sales 'Unlikely'

CHICAGO—Appliances are not likely to appear in supermarkets in the near future, it was concluded by a National Association of Food Chains clinic, held here recently. It was felt that handling appliances was a little too hazardous, due to servicing and other problems.

**PROVIDES UNIFORM  
CONSTANT TEMPERATURE  
IN ANY TRUCK BODY!**

**A SURE SIGN OF  
DEPENDABLE REFRIGERATION**



**For All High Temperature Applications  
NO SPOILAGE! NO LOSS!**

"Holdover for Stopovers"—available in models providing partial or complete holdover. Utilizes a minimum of floor space. Compact, light in weight, simple in operation. Easily installed within the truck body in a manner of minutes.

Let Dole engineers show you how a *Truk-Cel* Unit can fit your needs—and do a better job!

**Truk-Cel** **EUTECTIC  
BLOWER  
UNITS**



Write for particulars  
on *Truk-Cel* Units.  
Ask for  
Engineering Catalog CBE.

**DOLE REFRIGERATING COMPANY**  
5920 NORTH PULASKI ROAD, CHICAGO 30, ILLINOIS  
103 PARK AVENUE, NEW YORK 17, N. Y.

In Canada: Dole Refrigerating Products Limited  
44 Elgin Street, Brantford, Ontario

# What's Going On in Commercial Refrigeration

News of Markets, Products, Methods

## CRMA Figures--

(Concluded from Page 1)

of total industry volume last year was 2.2%. Ratio amounted to 2.6% in 1955, 2.8% in 1954, and 7.3% in 1949.

Closed double duty display cases' ratio was 4.3% in 1956, 5.4% the previous year, 6.6% in 1954, and 15.3% in 1949. Total shares for this combined classification were 6.5% last year, 8.0% the preceding year, 9.4% in 1954, and 22.6% in 1949.

### Multiple Deckers Reach New High

In self-service normal temperature display cases it was indicated that "single duty models went up; double duty units went down; and multiple deckers reached a new high of 11.7% ratio of products to volume."

Open self-service single duty display cases hit a 5.5% share of volume in 1956, was 5.1% the preceding year, 6.2% in 1954, and 8.2% in 1949. Open double duty units had ratios for the four named years of 9.2, 9.8, 10.1, and 17.6%. Open multiple deck display cases shared 11.7, 11.2, 11% of volume with no ratio being given for 1949. All other display cases' ratio to total industry volume last year was .6%, .4% in 1955, .5% the prior year, and 1.6% in 1949.

Total share of volume for all aforementioned types of commercial refrigerator equipment was 33.5% in 1956, 34.5% in '55, 37.2% in '54, and 50% in '49.

Open self-service single duty

## Ratios of Products to Total Volume, 1949-1955: 1956

(Government contract shipments excluded from all totals.)

|                                                 | 1949 | 1954 | 1955 | 1956 |
|-------------------------------------------------|------|------|------|------|
|                                                 | %    | %    | %    | %    |
| 1. SD display cases, closed.....                | 7.3  | 2.8  | 2.6  | 2.2  |
| 2. DD display cases, closed.....                | 15.3 | 6.6  | 5.4  | 4.3  |
| Total, this classification.....                 | 22.6 | 9.4  | 8.0  | 6.5  |
| 3. SD display cases, open SS.....               | 8.2  | 6.2  | 5.1  | 5.5  |
| 4. DD display cases, open SS.....               | 17.6 | 10.1 | 9.8  | 9.2  |
| 5. Multiple deck display cases, open SS.....    | ...  | 11.0 | 11.2 | 11.7 |
| Total, this classification.....                 | 25.8 | 27.3 | 26.1 | 26.4 |
| 6. All other display cases.....                 | 1.6  | 0.5  | 0.4  | 0.6  |
| Total, all above types.....                     | 50.0 | 37.2 | 34.5 | 33.5 |
| 7. SD vegetable cases, open SS.....             | 9.0  | 4.7  | 5.9  | 5.9  |
| 8. DD vegetable cases, open SS.....             | 5.7  | 5.5  | 4.4  | 4.4  |
| 9. Vegetable refrigerators, closed.....         | 0.9  | 2.2  | 1.7  | 1.2  |
| Total, this classification.....                 | 9.9  | 12.6 | 13.1 | 11.5 |
| 10. Low temperature refrigerators, open SS..... | 13.9 | 24.7 | 29.1 | 31.8 |
| 11. Low temperature refrigerators, closed.....  | 0.5  | 0.4  | 0.4  | 0.4  |
| Total, this classification.....                 | 14.4 | 25.1 | 29.5 | 32.2 |
| 12. Upright freezers.....                       | 2.1  | 2.4  | 2.4  | 2.4  |
| 13. Dairy refrigerators, wall boxes, etc. ....  | 3.8  | 2.4  | 2.2  | 2.0  |
| 14. Reach-in refrigerators.....                 | 9.8  | 9.4  | 6.9  | 7.1  |
| 15. Walk-in coolers.....                        | 6.5  | 6.3  | 7.0  | 7.4  |
| 16. All other C-R equipment.....                | 5.6  | 4.9  | 4.4  | 3.9  |
|                                                 | 100  | 100  | 100  | 100  |

vegetable cases were said to have "exactly equaled 1955 performance," but double duties lost ground, "which seems to be the trend for double duty models in all categories." A substantial dropoff on closed vegetable refrigerators share of total volume also occurred.

In 1956, open self-service single duty vegetable refrigerator cases had a ratio of 5.9% of total volume, compared with 5.9% the previous year, 4.7 in

1954, and 9% in 1949. Open self-service double duty vegetable cases share was 4.4% in 1956, 5.5% in 1955, 5.7% the preceding year, with no data for 1949.

Closed vegetable refrigerators had comparative ratios of 1.2, 1.7, 2.2, and .9% for these same years. Total ratio to total volume for this classification for the four comparative years was 11.5, 13.1, 12.6, and 9.9%.

### Open Low Temp Units Had 31.8% Share In '56

Open self-service low temperature refrigerators had a 31.8% share of total volume in 1956 as against 29.1% in 1955, 24.7% the previous year, and 13.9% in 1949. Closed low temp units had comparative ratios of .4, .4, .4, and .5% for the four years listed. Total for this classification in share of volume was 32.2% last year, 29.5% in 1955, 25.1% in '54, and 14.4% in '49.

### Walk-Ins 'Show Best Improvement'

Among the remaining items, production of walk-in coolers "showed the best improvement and most consistent record," it was indicated. They had a 7.4% share of the total volume last year, 7% the previous year, 6.3% in 1954, and 6.5% in 1949. Reach-in refrigerators had 7.1% of total industry volume in 1956, 6.9% the preceding year, 9.4% in 1954, and 9.8% in the earliest comparative year listed.

On the basis of last year's record, the long-established downward trend in reach-ins has been checked, it was pointed out.

Upright freezers' share of total volume was 2.4% last year, the same as 1955, 2.1% in 1954, with no comparison with 1949. Dairy refrigerators, wall boxes, etc., held a 2% share of total volume in 1956, 2.2% in 1955, 2.4% the preceding year, and 3.8% in 1949. All other commercial refrigerator equipment had comparative ratios of 3.9, 4.4, 4.9, and 5.6%.

## Steg's Store Plan Ideas

### Layout of Processing Area Equal to Fixtures; Receiving, Pricing, Stocking To Benefit

"If I were a commercial refrigeration distributor, I would. . . ."

Four executives of refrigeration equipment manufacturers were given an opportunity to sound off on this theme at the 10th annual convention of the National Commercial Refrigerator Sales Association.

They put forward their pet ideas on store planning and engineering services, sales pricing standards, service department organization, and the approach to voluntary chains and supermarket operations.

Beginning in this issue, the NEWS presents their talks as given before the distributor organization and recently released for publication. Below, Victor Steg, regional accounts manager for C. V. Hill & Co., Inc., tells what he would do about store planning and engineering "if I were a distributor."

In later issues, J. W. Krall, president of McCray Refrigerator Co., Inc.; J. A. Brinkoeter, first vice president of Friedrich Refrigerators, Inc.; and Ray L. Greene, sales manager of Tyler Refrigeration Corp., will give their views on the other aspects of running a distributorship.

By Victor H. Steg, Regional Accounts Manager, C. V. Hill & Co., Inc., Trenton, N. J.

SAN FRANCISCO — If he produce processing room may were a commercial refrigeration distributor, Victor H. Steg, regional accounts manager for C. V. Hill & Co., Inc., would offer store planning and engineering that goes beyond a mere fixture arrangement and answers all problems of designing, installing, and operating a food market.

"At one time," he told members of the National Commercial Refrigerator Sales Association at its 10th annual convention here, "the commercial refrigeration distributor was the prime source for a store layout.

### Can Get Layout From Many Sources

"Today, a merchant can get a store layout from many sources, since nearly anyone remotely connected with the food industry considers himself to be a store engineer and an authority on store planning.

### 'Must Make Better Use of Store Area'

"A store plan, to merit consideration over those furnished by others, must make better use of the store area. It must also cover more phases of setting up a new operation than merely the fixture arrangement.

"Many store engineers believe the best store plan is one which contains the most lineal footage of cases and shelving.

"True, most merchants want as many lineal feet of display as possible, but not at the expense of ignoring the problems of merchandising, processing of perishables, handling of stock, store atmosphere, installation, and service.

"A food store is not merely a merchandising operation. Items processed in the backroom represent between 35% and 45% of total store sales. An inefficient meat delicatessen, or

### Production Problem

"A self-service meat operation, for example, doing \$10,000 a week, requires the wrapping of 18,000 packages a week. That is a production problem in anyone's book, and it certainly justifies study and careful planning.

"Wasted steps, crowded conditions, a meat cutter waiting to use a saw, or a packaging operation ending at the furthest point from the display cases will all add many dollars to the cost of processing.

"Therefore, I would consider a layout of the processing areas as important as the fixture arrangement.

"Furthermore, every item checked out in front must first be received at the back door, checked, sorted, stored, unpacked, priced, and finally stocked on the shelf. The cost of labor in these operations can be very high. Why should the problems of receiving, pricing, and stocking not also benefit by proper planning?

"I recently saw a store installation incorporating a number of refinements simplifying the stock handling problem.

"Three buttons at the receiving door operated buzzers which summoned either the meat, produce, or dry grocery manager. Think of the time, money, and steps saved in a year by this simple addition to the store plan.

"Backroom shelving and pallets were arranged in the same sequence as the shelving in the sales area. The use of a plug-in phone system installed in both the display and storage shelving speeded up restocking.

"Merchandise was sent to the

(Concluded on next page)

For dependable measurable performance

DEAN

### COLD PLATES

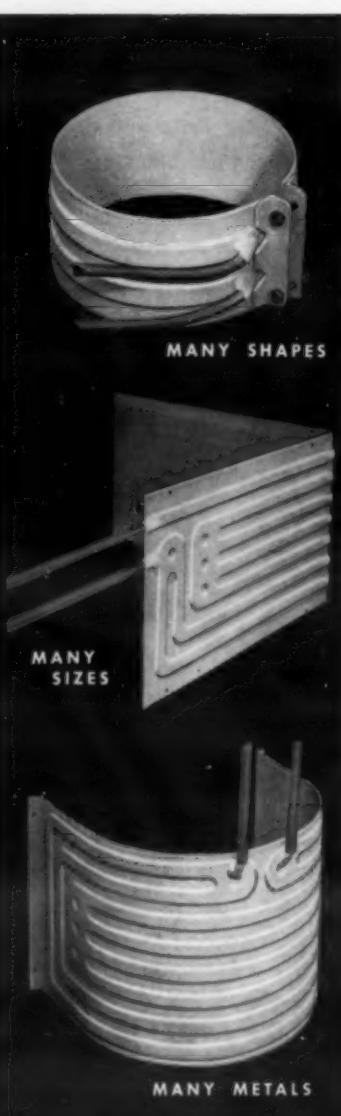
There's no "guesswork" when you use Dean Cold Plates. They'll always give you top operating efficiency. Ideal for ice cream cabinets, locker plants, soda fountains, farm milk coolers, farm freeze cabinets, low temperature test rooms, frosted food refrigerators, window displays, food counters, refrigerated transportation and subzero applications for industrial chilling.

### Job-Tailored to Your Specifications

Any way you want them . . . that's the way Dean will "job-tailor" your plates for you. Consider the savings this means in time and money. Available in zinc metallized steel, stainless steel and other metals. In cylinders, U's, angles, tanks, etc. Write NOW for that special, made-to-order plate you need.

Send For Technical Data Book giving information on Dean Cold Plates for various applications

DEAN  
PRODUCTS, INC.  
1042 DEAN STREET  
BROOKLYN 38, N.Y.  
Sterling 9-5400



Choice territories now available for sales representation. Inquiries invited.

For more information about products advertised on this page use Information Center, page 23.

## Steg's Store Plan Ideas--

(Concluded from preceding page) hot and cold water lines for the display area on a conveyor in the order called, thus eliminating back-tracking by the stock clerks. A price set-up at the conveyor eliminated costly re-handling.

### 'Must Consider Stock Handling Problem'

"Perhaps many merchants will not spend extra money for phones, conveyors, etc. Yet the stock-handling problem must be taken into consideration. Why should it not be part of the basic store plan?

"If the fixture arrangement and the processing areas are planned without regard to other backroom operations, it may be impossible to ever achieve a low-cost efficient store operation. So, I believe a good store plan should be an operational plan that would take into consideration every phase of merchandise handling from the receiving door to the pick-up station.

### Best Display Methods

"The merchandising of the display shelving is another service that most merchants expect. The average supermarket today sells between 3,500 and 4,000 items, in containers and packages of many shapes and sizes. A good store engineer should be familiar with the dimensions and the best methods of displaying every item.

"Sometimes this may permit using standard shelf arrangements, but frequently it will require special shelf inserts, such as baskets, pegboards, wire or glass shelves and the like. Special displays may have to be devised and furnished to provide merchandising aids that suit.

"A complete merchandising layout, I believe, should allocate shelf space for every item, as well as strategically locating it in the store for best selling. The width of each shelf, the spacing between shelves, and the location of all special display units should be indicated.

"My remarks may seem to be directed at only the store planning of large markets. Although a small store is not usually a complex operation, the owner can even less afford to waste a single square foot of space.

"Every merchant has a mental picture of his ideal market. It must not only be efficient and profitable, but it must also be different from all other markets.

### Plan Atmosphere for Store

"Designing three dimensional wall decorations, shadow boxes, decorative aisle and departmental markers also help add a distinctive and attractive atmosphere to a market without entering the realm of the architect.

"Now let us consider the store planning and engineering services necessary to make a good installation. My plumbing plan would include not only the drain and water requirements of the refrigerated cases, but also all other plumbing requirements.

"True, an architect is expected to prepare such plans. However, few architects are really familiar with store operations, and important details may be overlooked or incorrectly sized.

"For instance, by locating the

case should also be outlined.

"More than one electrician has mistakenly connected the fan motors to the same switch that operated the case lights, so that the refrigeration went off when the lights were switched off. Frequently the conduit to each case is too small, there is no provision for 220-volt for defrost heaters, or the 220-volt control wires for a freezer thermostat is overlooked.

"If water-cooled machines are used, I would indicate a plumbing hook-up to each condensing unit, so that a great deal of the work could be done when the general plumbing is put in. If a water-tower is to be provided, I would show the tower location, the plumbing hook-up with pipe sizes, and possibly a city water inter-connect.

"The electrical layout should include all the electrical requirements for all the refrigeration, including a list of the circuits and voltages to each case. The load requirements and means of

control of defrost heaters, anti-sweat and comfort heaters, fans, thermostats, and lights to each

overhead lights and spot lights to correspond with and enhance the displays on both the shelving and the refrigerated cases.

"A store lighting plan designed for one layout may be entirely inadequate or wasteful for another layout. Proper lighting must be designed around the merchandising layout.

"The refrigeration layout should indicate which cases or coolers each condensing unit is to operate. Line sizes and locations of equipment should be indicated.

"If trenches are to be used, a cross section detail of the trench construction should be shown. If possible, avoid trench cover plates across traffic aisles by indicating tile under the floor beneath aisles. Details of this sort are appreciated by the owner.

"Each case, cooler, and condensing unit could be numbered, and a copy of this refrigeration layout framed and hung in the

machine room. This would not only help the store manager in tracing some of the service problems himself, but it would also help a serviceman not completely familiar with the installation in pinpointing the trouble and speedily correcting it.

"The aggressive commercial refrigeration distributor will find it necessary to study the various food market trade journals to gain technical knowledge relating to store layout, backroom operations, and merchandising methods.

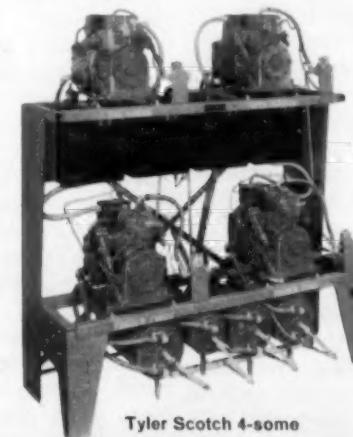
"He will visit new market installations throughout the country to get new ideas. He will keep in touch with the progress of all new installations he makes so that he can sift the good ideas from the bad in future store plans. And finally, he will attend grocers' meetings, clinics, and conventions so that he may keep abreast of the times in the rapidly changing food industry.

© Tyler Refrigeration Corporation, Niles, Mich.

Tyler set the pace with a notable  
"First"—customized water-cooled

## Multiple Condensing Unit Assemblies

factory-engineered and factory-assembled, complete with detail wiring and plumbing . . . to speed up installation, save valuable floor space, and simplify servicing.



Tyler Scotch 4-some

Now Tyler steps out  
ahead again with another big "First"—

## SUPER AIR-COOLED MULTIPLE ASSEMBLIES

specially designed for supermarket  
use in properly VENTILATED ROOMS—  
with new Tyler SUPER-AIR Condensing Units  
in singles, vertical 2-somes, vertical 3-somes!



Tyler Super-Air  
Vertical 3-some

Get full information right away on Tyler Super Air-Cooled Condensing Unit Assemblies, if you want to get the jump on competition where air-cooled installations are preferable.

Completely factory-engineered and pre-wired, Tyler assemblies save valuable space\*—speed up installation (at a time when every hour counts)—make servicing a cinch, with easy access and orderly arrangement. And they assure more efficient and economical refrigeration with perfectly balanced systems, and without costly remote (outdoor) condenser installations.

For your next air-cooled job, buy Super-Air Assemblies from Tyler—one source, one responsibility, one standard of performance—the very best!

\*for instance—a Tyler Super-Air Vertical 3-some requires only 7½ sq. ft. of floor space.

Write for complete information,  
including specific recommendations for ventilated rooms, automatic intake dampers and exhaust fans to expel warm air.

- Tyler Refrigeration Corporation, Dept. AR-3, Niles, Michigan
- Rush information on Tyler Super-Air Condensing Unit Assemblies, with complete recommendations for Ventilated Rooms.
- NAME \_\_\_\_\_
- ADDRESS \_\_\_\_\_

# 'Mom and Pop' Food Stores

**'Small' Refrigeration Dealer Predicts Bright Future for Superettes, Sees His Future In Helping Them To Prosper**

By John O. Sweet and George M. Hanning

BRISTOL, Tenn.—Pete Reasor is a man who believes firmly in the future of his customers' business and slaps hard cash on the barrelhead to prove it.

A "small" refrigeration equipment dealer, he is enthusiastic about the bright potential of the "superette" and "mom and pop" food store in this area. He believes that, operated properly, they can make a good living for their owners—and for him.

He believes just as firmly that working with the small grocer rather than the large supermarket is the salvation of the independent refrigeration equipment distributor and his road to a profitable future.

Bristol might be said to be a justification of his beliefs. Containing some 40,000 inhabitants on either side of the Virginia-Tennessee state line, Bristol is a busy little city with diversified industries, a distribution center for an active mountain resort area, and the home of three college-level schools.

## Only 2 Outside Chains Are Now In Bristol

Within its boundaries are more than 90 independent food stores and only two "outside" chain stores. Ask almost any of these grocers and they will tell you that they bought at least one piece of refrigeration equipment from Reasor. A considerable number will tell you they purchased all their equipment from him.

Reasor, who distributes the McCray line, has gained this position of pre-eminence in only seven years. He did it—in brief—by helping others to help themselves.

One of the keys to success for independent grocers and for Reasor has been keeping chain store competition to a minimum.

"Of course, the chain stores have been interested in coming into Bristol," Reasor states. "They have made several surveys here. But only Kroger and Piggly Wiggly have come in. A & P was here and left."

"They don't come," he asserted, "because the independents are strong and aggressive and because there isn't the additional potential to maintain a big supermarket. As long as we can keep the independents modernizing and growing, we will continue to discourage the chains."

## Sees Good, Steady Profit from Small Stores

Why would Reasor prefer to deal with a multitude of small stores rather than with a few large ones?

As Reasor sees it, even if he were fortunate enough to get the chain store's business, he might do \$50,000 worth of business in the year the chain opened. And he would have to do it at a small profit in order to get the order. Then he would be through for five years, until the supermarket was ready to replace some of its equipment.

But by dealing with the independents, he can do almost as much volume by selling them a piece at a time, at a profit on each piece, year in and year out. "It is steadier business and keeps the money at home," he commented.

## Risk Is Spread Out

In addition, if Reasor had his money tied up in a \$50,000 contract with a supermarket and the venture failed, he would, too. But, with his money in a number of \$5,000 contracts, he would not be badly hurt if a couple of these contracts should go bad. And that has rarely happened, he reports.

Admitting that the small independent grocer would not stand much chance in direct competition with the big chain store, he is just as convinced that brisk competition between themselves creates business for everybody. So he does all he can to encourage such "healthy" competition.

## Helps 'Mom and Pops' Increase Efficiency

With the small "mom and pop" grocers, he tries to help them increase their merchandising efficiency in the small space available without too much capital expenditure. He adds some modern shelving at first and then adds pieces of needed refrigeration equipment—usually used—as business picks up.

For the more aggressive grocer, the businessman who is interested in expanding his business and making more money, Reasor is ready with suggestions for expansion or for opening larger stores in better locations.

Reasor preaches to his prospects that they have to grow or die. If they make no effort to realize the potentialities of their business, someone else will move in and do so.

As Reasor puts it, "we have the equipment to sell, the banks have plenty of money, all we need to do is work out the terms to fit the grocer's potential."

Like any good salesman, Reasor does everything he can to make it easy for the prospect to buy.

## Willing To Trade on Customer's Terms

"Selling is a two-way proposition," Reasor philosophizes. "It takes two to make a trade. I am always willing to trade on the other man's terms. I have a reputation in the food trade that Reasor will trade on your terms."

When necessary to convince a doubtful prospect, Reasor will put a case in a store for 90 days before the down payment is due. He further promises to take it out, if at the end of that time, the case is not making money for the grocer.

"In these 90 days, the grocer will be able to see for himself that the case will make money for him. He may even be able to earn the down payment in that time," Reasor said.

Reasor goes a step further. He makes it part of the agreement that the grocer will keep the case fully stocked during the 90-day trial. If the grocer lets the stock dwindle, the agreement is off.

"Naturally you cannot make money from a half-empty case," he commented. "And if the grocer will not use the equipment, it won't make a profit for him."

To make sure that the case is kept well stocked, Reasor immediately informs all wholesale food salesmen. He urges that they get right over to make sure they get their share of space in the new cabinet.

## 'Grow or Die' Is Advice Small Grocers Receive from Pete Reasor



"You have to grow or die," Pete Reasor tells independent food store operators. One of the operators who has taken this advice—and profited thereby—is Herb McCroskey, owner of Bristol's U-Tote-Em market, who has remodeled his store and added new equipment several times. Here, Reasor and McCroskey recall that the store's first "mom and pop" case was installed where there is now 30 ft. of vegetable display.



McCroskey started out with a 6-ft. meat counter, later added 12 ft., and then expanded the department to 30 ft. (as shown), plus a 9-ft. dairy bar, at Reasor's suggestion. As a result, the grocer "is enjoying one of the best meat businesses in town."



Being located downtown where he has no parking facilities, McCroskey is planning to move to a new market (shown under construction) in a neighborhood location where there is plenty of parking space. The new store is planned for 49 ft. of meat cases (30 ft. service and 19 self-service), 22 ft. of dairy equipment, 66 ft. of produce cases (33 ft. refrigerated), 22 ft. of frozen food fixtures, two walk-ins, and 84 cu. ft. of backroom upright freezer space. A creek running behind the store will provide "free" water for the water-cooled compressors.

"When the salesmen descend on the grocer and start filling up his case for him, he is impressed by the extra attention and the importance of his new purchase. It creates new interest and enthusiasm for him."

He recalled one instance when he sold a new dairy case to a small store owner on that basis. He helped fill the case himself, emptying cartons of bacon and biscuits into the case and stacking them neatly, "to make it look as though someone lived there," as he put it.

The owner was taken aback and protested that she wouldn't sell that much bacon in a month. But Reasor promised to come and take it out if she didn't sell it.

"When I went back later to check on how she was doing," Reasor declared, "she had not only sold all the bacon, but had had to order more."

## 90-Day Trial Has Never Failed

Reasor said that he has never had to pull a case yet that was put in on a 90-day trial. He recalled making only one repossession, and that was from a man

determined to get out of the food business.

Reasor also makes it easier for the prospect to buy, by pre-selling local bankers on his equipment. He has so convinced them of the value of his paper, which he says has been borne out by their good experience with it, that he now has several banks bidding for it.

## Prefers To Place Paper With Local Banks

However, Reasor prefers to place the paper with a local bank whenever possible. He likes to keep the money "at home," where its activity will stimulate local business. And, dealing with the local banker has a psychological advantage, he believes.

"When a food merchant makes his payments to the banker down the street, he is more likely to keep them up," Reasor argues, "than when he is dealing with a bank out of town."

Reasor says he has his paper scattered all over the territory within 100 miles of Bristol that he covers.

In many cases, Reasor has ar-

(Concluded on next page)

## Future of Small Food Store--

(Concluded from preceding page) with all the latest technical advances not only in our own McCray equipment but in competitive makes as well. We will service either to keep grocer operating.

One customer started on this plan back in 1953, when he was doing about a \$16,000 to \$17,000 annual volume. He has steadily added equipment and increased his business until he is doing nearly a \$1 million annual volume now and is ready to build a complete new store. In all that time he has never missed a payment, Reasor declared.

### Has Dipped Into Own Pocket To Make Payment for Customer

Knowing that at times, even the best of grocers will get pinched for cash, Reasor has many times dipped into his own pocket to make the payment on a piece of equipment when a grocer was not able to do so. This kept the grocer in good standing with the bank and protected his credit rating. The customer paid Reasor back when he was on his feet again.

"This business is a gamble—a legitimate gamble," he commented, "and when you gamble you have to take risks. So far, the risks have paid off. Only once have I had a customer go under after I had taken money out of my pockets to keep up his payments. The banks have never lost anything on us."

### Works with Cooperative Group In Area

Reasor makes it easier for some customers to buy by working with the "Sav-Mor" cooperative group of possibly 40 Bristol area food stores. The group is an association of independent merchants who combine their advertising and do their food buying through a single food wholesaler. This volume business helps the wholesaler to buy at lower prices, passing the savings on to members of the group.

In the same way, Reasor offers to sell equipment to Sav-Mor grocers at 10% above wholesale cost, justifying this on the grounds of the larger volume of business attained. "I sell more equipment in one year with the co-op, than I did in five years without it," he noted.

### Would Like To Give Good Risks 5 Years To Pay

Reasor said that he would like to see equipment sold on five-year terms with no down payment for good credit risks. He believes the idea would work out satisfactorily and that this would keep the monthly payments low enough to be "comfortable."

On the new equipment he sells, Reasor gives 90 days free service and one year's replacement of defective parts. For used equipment, he makes a one year guarantee.

With three mechanics and five to seven helpers working full time, and extras available whenever they are needed, Reasor prides himself on providing fast service for his customers. He will even roll up his sleeves and answer a call himself when necessary.

"My men and I try to keep up

gancy service call at 3 a.m.

"That merchant was so pleased," he said, "that he told everybody he saw about it. I believe that one call has led to thousands of dollars worth of business."

Reasor not only keeps up with technical advances in service, but also in merchandising. When McCray came out with its new line of refrigerated dairy shelving last spring, Reasor envisioned great potentialities for it in his area.

He ordered a trailer load at the distributor's convention when the new cases were introduced. Immediately on returning home he organized an open house. He telephoned all the grocers in the region to invite them to see the new equipment.

Reasor recalled that one Sunday night he got a call on a motor burnout from a small Kentucky town about two hours' drive away. He put a 2-hp. motor in his car, drove over there, and installed it on a turing a "trailer load of new freezer, saving the grocer's meat cases to be installed in the Bristol trading area." He also

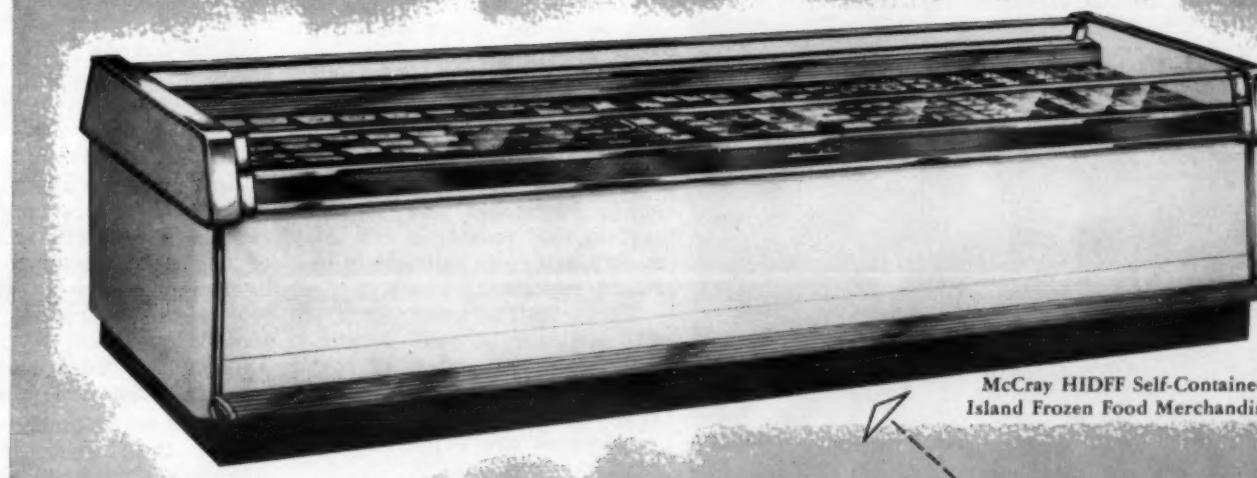


Another independent food store operator who took Reasor's advice to keep growing is O. L. Frazier whose "mom and pop" store has "come up from scratch" in a new location. Here, two customers serve themselves from new 11-ft. fixture with refrigerated shelving. Restocking dairy and delicatessen case at left is Frazier.

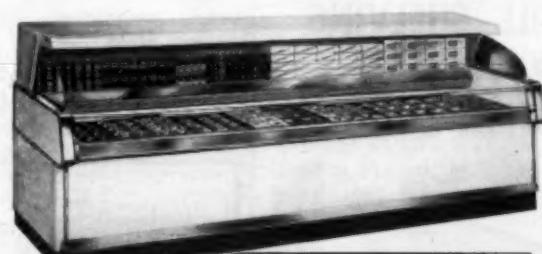
invited local food salesmen to later display their wares in the new cases and to provide refreshments. It helped establish Reasor as an authority on equipment in the eyes of the local trade.

"The event created such interest, we had people calling us for counters," Reasor asserted. "We this business," he stated, "if we sold six cases the week follow want to win the prestige and the ing the open house and more confidence of the people."

## MR. DEALER: HERE'S THE ANSWER TO YOUR CUSTOMERS' FROZEN FOOD EXPANSION PROGRAM



McCray HIDFF Self-Contained Island Frozen Food Merchandiser



McCray HFF—Self-Contained Frozen Food Merchandiser—in 8 and 12-foot lengths. Choice of high or low superstructure.

### See Them at S.M.I. Show

BOOTHS 64 AND 75  
Cleveland, O. • April 7-10

Over 65 Years of  
Leadership in Building  
Dependable Commercial  
Refrigerators  
and Display Cases.



### Note to Dealers!

Some territory is open. Send coupon or write now for information on available territory and the sales opportunities with the McCray line.

The  
**ONLY 12-FOOT ISLAND  
SELF-CONTAINED  
Frozen Food Merchandisers**

Also Available in 8-Foot Length

Food Merchants can spot this new McCray Island Super salesman anywhere in the store. There are no problems because no drains are required—defrost water is automatically evaporated.

Identical shopping fronts attract customers from both sides. Swept-back glass fronts make shopping a pleasure and give full product visibility even from a distance. Beautiful McCray styling glamorizes frozen foods. Big capacity. Dependable McCray Koldflo refrigeration blankets protect load with uniform flow of sub-zero air. These new cases are additional reasons why leading merchandisers across the nation are specifying McCray.

McCray Refrigerator Co., Inc., 301 McCray Ct., Kendallville, Ind.  
Without obligation to us please send information concerning the McCray franchise and available territory.

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_

'Project X'

## CRMA To Eye Short, Long-Range Volume Prospects at Los Angeles Meeting May 2

CHICAGO—Delegates to the effect on fixture demand. Commercial Refrigerator Manufacturers Association spring meeting in Los Angeles on May 2 will be asked to take part in a detailed examination of the industry's "health," the organization's president, Joseph W. Krall, head of McCray Refrigerator Co., has announced to the CRMA membership.

To be listed on the program as "Project X," a panel of representative executives will lead a general discussion of factors influencing both the short and long-range volume prospects of the industry, with major emphasis on changes in retail food distribution methods, such as the continued expansion of frozen foods consumption, and their

On the following day the group, augmented by delegations of key engineering and production personnel from throughout the membership, will be conducted through the Weber Showcase & Fixture Co. factory, in the seventh of CRMA's series of annual plant tours.

The afternoon will be devoted to a discussion of production problems, labor relations, cost-reducing techniques, and an exchange of suggestions for improving product quality and performance. S. D. Vander Weg, director of operations for Tyler Refrigeration Corp., will act as moderator.

Vernon Thill, Weber production manager, has been appointed

ed by Krall to head the committee on arrangements for the plant tour and production conference.

Aiding him will be Stuart A. Bergman, production manager of Friedrich Refrigerators; John R. Caulk, Jr., executive vice president of Hussmann Refrigerator Co.; Chester K. Litman, president of Koch Refrigerators; W. M. Mayo, vice president of manufacturing, The Warren Co.; and Vander Weg.

### Anheuser-Busch To Push Research, Service, Promotion

ST. LOUIS—An intensified program of research and development, field service, and sales promotion is planned for 1957 by the Refrigerated Cabinet Div. of Anheuser-Busch, Inc., August A. Busch, Jr., A-B president, announced in a recent progress report to the division's distributors across the country.

Busch pointed out that the company's diversification and continued expansion of all divisions of the company "is very much in the forefront of our current planning and research."

He said the company's engineers and research men are working "on many projects" for the cabinet division which "we believe has great promise for the future."

The division also is currently conducting a new field service training program to help provide better service to the division's customers and to make certain that maximum efficiency is obtained from cabinets in use, Busch reported.

This instructional program will continue through June and ultimately will cover 49 major trade areas throughout the nation. Several thousand cabinet servicemen are expected to attend the sessions.

## 10% Down, 5 Years To Pay Terned Sound Commercial Credit Plan

SAN FRANCISCO—What constitutes sound credit and equipment leasing policies for commercial refrigeration distributors?

Some tips on these subjects were offered at the 10th annual convention of the National Commercial Refrigerator Sales Association by E. H. Thrower, vice president of the C.I.T. Corp. here and D. P. Boothe, Jr., president of Boothe Leasing Corp., also in San Francisco.

Ten per cent down and a five-year payment period is a sound procedure on commercial refrigeration equipment, Thrower advised.

No distributor is going to worry if the customer is able to pay 15% down, he added.

The amount of the down payment is not important if the customer has a good credit record, Thrower noted. But if his record is not so good, the distributor should get 15% down.

Boothe declared that it is a fallacious idea that a lessee wants a lease because it is a tax gimmick. It is a still greater fallacy that companies with bad credit ratings and no down payment can get equipment.

A good credit rating is necessary, he emphasized. Business leasing is done because the customer desires to tie up less capital in his business.

Leasing companies look at the balance sheet position for substantial net worth and a ratio of current assets to current liabilities of 1.5/1. They also look for a successful business history of three to five years, and for a record of making payments promptly, he explained.

Leases set up much lower payments than other forms of financing, Boothe said, but checking on the lessee is necessary, because the market on used, reclaimed equipment is pretty thin.

The average length of leases on refrigeration equipment is not over seven years, he esti-

mated. This is due to obsolescence of equipment and the desire of supermarkets for new equipment. A lease to one cooperative group was limited to five years, he noted.

Terms of the lease should provide that title to the equipment shall remain in the hands of the lessee during its entire useful life. The lease should also be non-cancellable, he added.

Lease rates vary widely with circumstances, Boothe said. A lessor with high credit rating can enter into a lease for 125% to 135% of the value over a 10-year term, if the equipment should be leased for that long.

Five-year terms were more suitable, he said. On value, 3 to 5% can be charged.

### Bulman Buys Acreage For Future Expansion

GRAND RAPIDS, Mich.—To provide for future expansion, the Bulman Corp. here has purchased approximately three acres of industrial property adjoining the present Bulman plant on Elizabeth Ave. N.W., Irving C. Folger, executive vice president of the store equipment firm, announced.

Bulman has preliminary plans under way for a future two-story addition 100 by 500 ft. just east of the C&O tracks. Construction of the new factory building will be started by 1960, according to present plans in the company's program of expansion.

### To Operate Food-O-Mat

BOSTON—Grand Union, supermarket chain, is planning operation of a "Food-O-Mat" as an outdoor vending machine, Lansing P. Shield revealed here.

The machine, still in the experimental stage, will utilize the Food-O-Mat principle, invented by Shield. The Food-O-Mat is a gravity-fed device being used by Grand Union.

### SAFE ON ARRIVAL!

#### Foster Refrigerators in SHIPPING CONTAINERS by CHICAGO MILL!



Yes, Foster Refrigerator Corp., leading manufacturer of all-aluminum refrigerators, depends on Chicago Mill for containers which provide safe shipment for their finished product.

#### YOUR PRODUCT MAY CALL FOR AN ENTIRELY DIFFERENT TYPE OF SHIPPING CONTAINER!

You can depend on Chicago Mill for the solution to your shipping problems. A Chicago Mill representative can recommend, without bias, the correct container for your product...

... for only Chicago Mill MAKES 'EM ALL! utilizing Craveneer, Corrugated, Plywood, Veneer and Resawed Materials!



#### FREE!

Illustrated catalog describing Chicago Mill shipping containers and services.

### CHICAGO MILL AND LUMBER COMPANY

33 South Clark Street

Chicago 3, Illinois

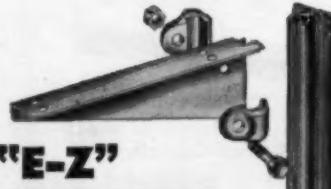
Plants at: Helena, Arkansas  
Tallulah, Louisiana

Greenville, Mississippi  
Rockmart, Georgia

Chicago, Illinois

### WILL SHELVING HELP YOUR SALES?

"Get the E-Z Story"



### "E-Z" SHELVING GIVES PIN-POINT ADJUSTABILITY

#### "E-Z" BRACKETS & STANDARDS Provides These Advantages

- (1) Helps solve Uneven Floor Problem. Upper Shelves Adjust Level without shimming.
- (2) Helps Solve Odd Package Sizes. Permits vertical spacing to fraction of inch.
- (3) Provides rugged "back-bone" for many shelving requirements.
- (4) Readily Adapted to Precision Tailored Fixtures.

#### NO KEYHOLES OR SLOTS

Brackets slide up and down in Standard groove and lock at any point on Standard.

HANDLES ALL NORMAL DISPLAY LOADS

Write for Free Folder

Standard Steel Works, Inc.

DEPT. AC-9, NORTH KANSAS CITY, MO.

### PEERLESS EQUIPMENT CORPORATION

is pleased to announce that their factory and offices will be located at 10 Brookdale Place, Mount Vernon, New York, as of

MARCH 1, 1957

We sincerely wish to thank all our customers, suppliers, friends, and competitors for making this move possible. We welcome all to inspect our new premises at any time.

### PEERLESS EQUIPMENT CORP.

In Chicago—ARI Show, be sure to visit Booth 166.

## 1,350 In-Wall Units To Condition Two 15-Story Apartment Bldgs.

NEW YORK CITY—The new Coliseum Park Apartments now being built here will be equipped with 1,350 individual all-in-wall room air conditioners furnished by Airtemp Construction Div. of Chrysler Corp.

The apartments—consisting of two 15-story buildings separated by a two-acre landscaped plaza—are being erected west of the city's new Coliseum at Broadway and 59th St. The pair

of buildings will contain 590 suites of 2 to 4½ rooms. The first floor will have 19 suites reserved for professional use.

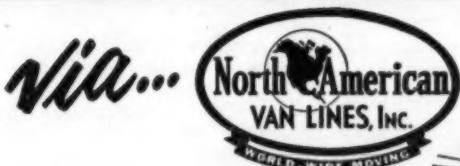
The buildings will be air conditioned by individually-controlled Airtemp room air conditioners—½, ¼, and 1-hp. sizes—built into the walls of all living rooms and bedrooms. A single wall enclosure will contain both conditioner and convector radiator.

Construction of the Coliseum Park Apartments marks the fifth large-scale application of Airtemp all-in-wall air conditioning in the New York area. The fashionable new Rockwood and Randall House Apartments built by David Rose & Associates, Inc., feature the built-in conditioners. The firm's new Eastmore Apartment development will be similarly equipped, as will the new apartment structure of the 200 East 36th Street Corp.

**AIRO** stands for  
Speedy, dependable,  
world-wide service.  
Air Conditioning and  
Refrigeration parts,  
equipment, supplies.  
Write for Wholesale  
Catalog No. 56

**AIRO SUPPLY CO.**  
2732 N. Ashland Ave., Chicago 14, Ill.

MARK YOUR  
SHIPPING  
ORDERS  
"UNCRATED"  
THERE IS NO EASIER WAY  
TO CUT COSTS!



### A BETTER DEAL FOR Factory • Merchant • User

New furniture, home furnishings and store and office equipment . . . UNCRATED . . . are more safely and quickly moved at lower cost from factory to display floor or to user. North American Van Lines, Inc., Creston Division, with experienced agents at both origin and destination, accepts undivided responsibility to assure prompt, safe delivery on schedule. You save crating and uncrating costs. It will pay to check NOW!

Write or call for  
"Facts about Uncrated Shipments"  
and Case Histories.

**NORTH AMERICAN VAN LINES, INC.**  
CRESTON DIVISION, DEPT. R, FORT WAYNE, INDIANA

### CRESTON DIVISION

SHIPPING BY NAVI-CRESTON  
ELIMINATES THIS . . .



MATERIAL AND LABOR OF  
CRATING, UNCRATING AND  
EXCESS WEIGHT.

### Emerson Expands Room Cooler Line, Ups Sales Volume

JERSEY CITY, N. J.—Even though Emerson Radio & Phonograph Corp. suffered a severe drop in profits and a \$13.5 million decline in sales in its fiscal year ended Oct. 31, the firm's line of air conditioners was expanded during the year and its market position improved, according to Benjamin Abrams, president.

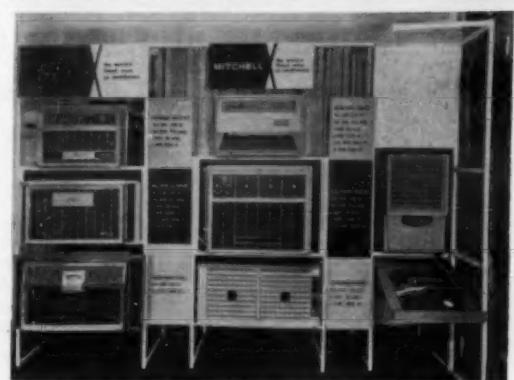
Air conditioner sales volume was increased over the prior year, he said. In addition, he noted that Emerson is "well equipped" to secure its "proportionate" share of the air conditioning and electronics markets.

Abrams added that "excellent prospects" exist for continuing advances in sales and profits in the air conditioning program.

### Offers 'Showcase' Units

NEW YORK CITY—Rowe Mfg. Co. recently offered its new "showcase" vendors for food, drink, and cigarettes. Fully automatic machines sell hot foods, candy, pastry, cold drinks, and cigarettes.

THIS seven-unit mass display for room air conditioners is available to key accounts from Mitchell Mfg. Co. The 9 by 8-ft. rack is designed to display one model each from the seven different room air conditioner series in Mitchell's 31-unit 1957 line.



### KLIXON Protectors Minimize Appliance Motor Burnouts says Texas Appliance Dealer

DALLAS, TEXAS: Duke Doyle, owner of a high volume appliance store in Dallas, knows the value of Klixon Protectors. He states:

"We handle sales and service of practically all major appliances including freezers, refrigerators, washers, dryers and window air conditioners. Our service experience shows without a doubt that Klixon Motor Protectors are doing a good job of minimizing motor burnouts in these units."



### Klixon Protectors Reduce Service Calls and Repairs by Preventing Motor Burnouts

The KLIXON Protector is built into the motor by the motor manufacturer. In such equipment as refrigerators, oil burners, washing machines, etc., they keep motors working by preventing burnouts. If you would like increased customer-preference, reduced service calls and minimized repairs and replacements, it will pay you well to ask for equipment with KLIXON Protectors.

WRITE FOR THE NEW FREE INFORMATIVE BOOKLET,  
"THE STORY OF THE SPENCER DISC."

**KLIXON** METALS & CONTROLS CORPORATION  
SPENCER THERMOSTAT DIVISION  
2403 Forest Street, Attleboro, Mass.

**Edwards**—  
**CO-AXIAL CONDENSERS**

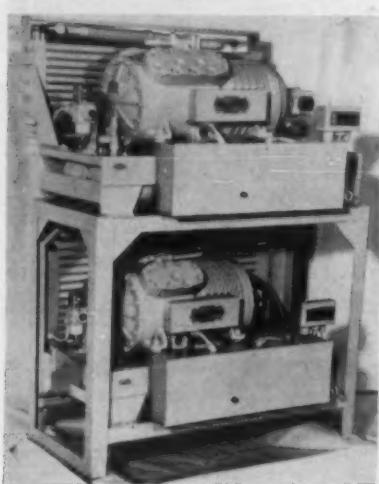
A TYPICAL CONFIGURATION—  
EFFICIENT, COMPACT DESIGN

Send for catalog  
TT-652  
TODAY  
or call  
TERHUNE 5-2808

**EDWARDS** ENGINEERING CORP.  
100 ALEXANDER AVENUE • POMPTON PLAINS, NEW JERSEY

## What's New

### Condensing Unit Rack Features Central Controls



KEY NO. G-340

UTICA, N. Y.—A new space saving rack for the accommodation of semi-sealed and open-type condensing units has been introduced by the Brunner Co. of Gainesville, Ga., it was announced by Brunner Mfg. Co. here.

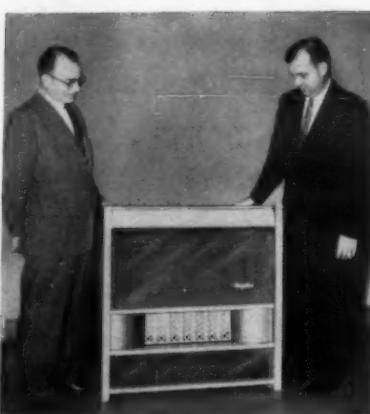
The new racks feature central control panels which contain all the necessary controls for each condensing unit. Each panel holds such items as disconnect switch, timer, starter, and other electrical controls. By combining these in one panel, rather than in several, water or cooling tower."

controls are more accessible and easier to work on, the company said.

"Racks are especially designed to hold Brunner condensing units in varying horsepowers," it was pointed out. "Units may be double-decked, and, if necessary, triple-decked and the racks can be bolted together end-to-end to make a rigid and compact bank of condensing units. For instance, any 7 1/2-ft. room can house three units in a floor space of 7 sq. ft. by simply bolting an add-on unit to the top of a conventional two-unit rack.

"Constructed of sturdy, all-welded #10 gauge steel, the racks make it easy to service units. The mounting of units may be staggered for easy cleaning and the racks are equipped with brackets for condenser protection or mounting of frames to hold refrigerant, water, and electrical lines.

"Racks are furnished with compressors mounted as desired and are completely wired to newly designed individual control panels. Racks are also available without condensers for use in conjunction with evaporative condensers or remote air-cooled condensers or can be provided with a water-cooled condenser for use with city water or cooling tower."



### Gas, Oil Home Heater Has 'Cool Cabinet'

KEY NO. G-342

CLEVELAND—As part of its 1957 appliance line, Perfection Industries, Div. of Hupp Corp. offers for 1957 a new "Consolair" gas and oil home heater with "cool cabinet" design and automatic comfort control, a complete line of vented and unvented gas "safety-cool" cabinet heaters, gas and oil space heaters, portable oil and electric heaters, and kerosene cabinet heaters.

Outputs from 14,000 to 100,000 B.t.u. are offered in gas model cabinet and space heaters. Oil heaters come with outputs of 38,000 to 80,000 B.t.u. Heat-directing baffles and spun glass insulation keep sides and top cool in the cool cabinet line.

Consolair model automatically provides circulating heat to warm the living area and infrared heat from firelight radiants for "sunlight" warmth, the company said. An automatic blower can be added readily for increased circulation of warmth. Delivering 65,000 B.t.u., the gas-fired unit is finished in textured baked enamel to provide leather-like grain.

It is also available as a 45,000 B.t.u. oil space heater featuring concealed controls.

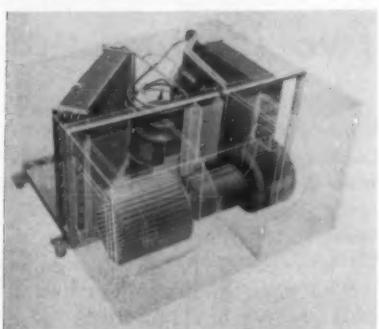
### 3-Hp. Residential Unit Supplements Feeders Line

KEY NO. G-344

MASPETH, N. Y.—A new 3-hp. residential air conditioner was recently announced here by Feeders-Quigan Corp. to supplement the firm's 2-hp. model in its line of "Adaptomatic" central units.

Designed to minimize installation costs and fit into any type of home without large wall openings or structural alterations, the new model will be available to builders and contractors. The company claims the unit can be installed at an "approximate cost of \$600."

An all-in-one, air-cooled air conditioner, it incorporates centrifugal blowers to draw outside condenser air under pressure to any installation point anywhere in the house. It features a new split-



chassis design that consists of separate refrigeration and blower chassis which bolt together in a short time, the company explained. It carries a suggested list price of \$649.95.

### Penn Controls Introduces 'Rimset' Thermostat

KEY NO. G-345

GOSHEN, Ind.—The "Rimset," a new thermostat with a large, easily read dial has been introduced by Penn Controls, Inc.

The thermostat is available for controlling heating only, cooling only, or both heating and cooling for year-round air conditioning.

A new idea incorporated in the Rimset simplifies stocking problems and makes reduced inventory possible for wholesalers and dealers, claims Penn's marketing manager, R. H. Luscombe.

"That feature," it was explained, "is this: The thermostat always remains the same for any system variation. All heating or cooling variations are made in the sub-base, thus allowing the stocking of various sub-base assemblies to meet any requirement desired by the customer."

The same thermostat is used with any sub-base assembly for the unit.

"Since both the thermostat and sub-base are always the same size, that means that whether the homeowner has a heating system only or a complete year-round air conditioning system in his home, he always has the same size thermostat on his wall."

Once the user chooses the thermostat for his particular system, all the installer need do is plug the thermostat into the proper sub-base, Luscombe further commented.

"If the user wishes to change the thermostat setting to suit his comfort requirements, all he does is 'dial' the rim to get any temperature setting desired," he pointed out.

"The scale remains stationary always."

An adjustable heat "anticipator" permits accurate temperature control to within 1° F. with the Rimset, the manufacturer further claims.

### Fiber Glass Filter Pad Can Be Cut by Scissors

KEY NO. G-341

PITTSBURGH—A new "do-it-yourself" fiber glass air conditioner filter pad that can be cut with household scissors or knife to fit any size home air conditioning unit has been developed by the Fiber Glass Div. of Pittsburgh Plate Glass Co.

The new 16 by 24 by 1/2 in. "Glasfloss" pad makes one or more filters, depending on the size of

the unit to be serviced. Glasfloss is made of fine grade, long, silky glass fibers, it was pointed out. The fibers do not splinter or pierce the skin, making the pad easy to handle, the company said.

Also it was stated, Glasfloss filters are fire resistant and moistureproof. They will be available immediately from dealers who handle Pittsburgh Plate Glass Co. fiber glass products.

**THE ANSWER TO ALL YOUR CLEANING AND DESCALING PROBLEMS**

**The NEW HASTINGS CLEAN-IT**

**A BIG TIME AND MONEY SAVER!**

**FOR CLEANING ALL TYPES OF CONDENSERS**

**COIL SURFACES**  
**COOLING TOWERS**  
**WATER HEATERS**

**COIL TUBES**  
**BLOWER WHEELS**  
**AIR HANDLING UNITS**

**FEATURES INCLUDE**

- ACID-RESISTANT TANKS
- ACID-RESISTANT PUMPS
- UNITS REVERSABLE FOR PRESSURE OR SUCTION
- SNAP-ON FITTINGS
- RUBBER TIRED WHEELS
- STAIR-SKIDS

**HASTINGS CLEAN-IT**

Eliminates the hazards and mess of old-fashioned cleaning methods UNCONDITIONALLY GUARANTEED

Write for Prices and Bulletin AC-37-2C

3215 Leavenworth  
Omaha 5, Nebraska



### 'Dairy Mix' Cabinet Doubles as Counter

KEY NO. G-343

HUDSON, Wis.—A new aid for small drive-in and dairy products stores where operating space is at a minimum was announced by Nor-Lake, Inc.

Designed as a storage cabinet and base for soft ice cream machines and milk dispensers, the "Dairy Mix" cabinets provide general refrigerated storage space and can double as counters, it was explained.

Galvanized interior, Formica top, and baked enamel exterior finish over cold rolled steel are features, it was said. Unit's large blower coil is self-defrosting, and a moisture evaporator jar eliminates need for a drain.

A section at the top has been cut out and furnished with a flip lid that covers an extra internal refrigeration compartment. This can be used to store milk or hold a boottail flavor unit, the firm reports.

Available in two sizes, the DM-80 has a capacity of eight 10-gal. cans, while DM-40 holds four. The latter is the same height and width but is 52 1/4 rather than 79 1/2 in. long, has a 1/4-hp. compressor and P82 blower coil.

Specifications for the DM-80 are: 33 1/2 in. high, 34 1/4 in. wide, 1/2-hp. compressor, and P103 blower coil.

**WE CAN DO THE WORK OF 4 MEN IN HALF THE TIME...**

**with the NEW HASTINGS HOIST-IT**

**SAVE MONEY, TIME, TROUBLE**

- Raises 100 to 4,000 lbs., as high as 18 feet
- Saves hundreds of man hours—often pays for itself on the first job
- Will not damage finished ceilings

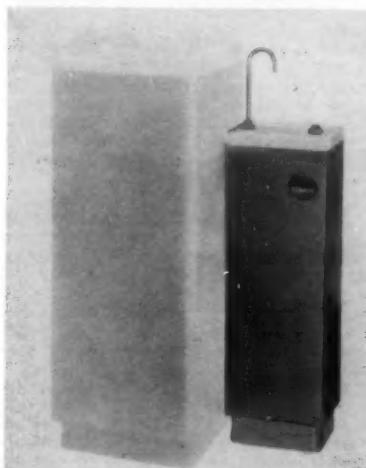
**HASTINGS HOIST-IT**

COMPLETELY SAFE  
Eliminates hazards of old fashioned lifting methods  
UNCONDITIONALLY GUARANTEED

Write for Prices and Bulletin AC-37-2H

3215 Leavenworth  
Omaha 5, Nebraska

## Hot Water Dispenser Can Be Used Beside Cooler



KEY NO. G-346

GLEN RIDDLE, Pa.—A new hot water dispenser, "Cooler-Hot," was recently introduced here by Sunroc Corp. to be operated in conjunction with pressure water the company said.

coolers installed in plants and offices and offer hot drink service.

Designed like a water cooler, Cooler-Hot has a drain height parallel to that of standard coolers and fittings are standard size for easy attachment to any standard pressure cooler.

Installation can be made at either side of an existing cooler or the unit can be connected to water outlets where no cooler is needed. It is 37-in. high, has a capacity of up to 60 hot cups per hour.

Outside cabinet measurements are 31 by 10 by 7 in. finished in gray hammertone enamel with rustproof, scuff-proof stainless steel base.

Vitreous china top is equipped with stainless steel drain plate, chrome finished glass filler, and separate chrome pushbutton activator. It has a 6-ft. wall cord for 115-v., 60-cycle a.c. connection. It is priced at \$73 f.o.b. Glen Riddle, the company said.



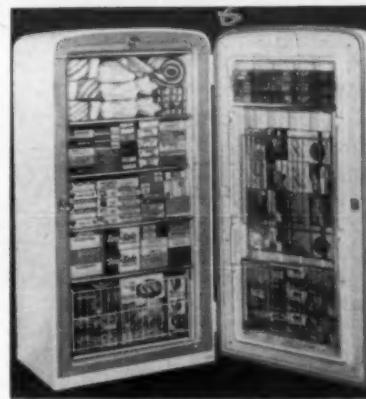
### 'Vap-R-Tyt' Prevents Moisture Penetration

KEY NO. G-348

HAGERSTOWN, Md.—A new feature known as "Vap-r-tyt" was recently introduced by Jamison Cold Storage Door Co. to prevent moisture penetration into the core of cold storage doors under high vapor pressure.

It consists basically of soldering all metal seams and sealing all penetrating bolts on fronts of metal-clad doors. Now standard for Jamison's low temp doors, it is optional for others.

## Gibson Offers Upright To Match Refrigerators



KEY NO. G-349

GREENVILLE, Mich.—Gibson Refrigerator Co., Div. of Hupp Corp., recently announced a new upright freezer, model GUF-13, styled to match the firm's 1957 line of refrigerators.

Nearly 13 cu. ft. in capacity, the new freezer may be used as a component of the "Sweethearts" matching pair of refrigerator and freezer. Models lend themselves to quick installation and collar sizes of 5, 6, and 7 in.

food storage location, it was said. Unit stores 427 lbs. of food in a 62 by 31 by 31 $\frac{1}{16}$ -in. cabinet. It features "Stay-Pack" shelves, swing-out basket, package and juice dispensers, and is sold with food insurance. Its recommended retail price is \$419.95.

### Permanent Connection Takeoff Fitting Added

KEY NO. G-3410

OMAHA, Neb.—A fully adjustable top or side takeoff universal fitting with positive method of attachment was recently offered here by Standard Furnace Supply Co., Ltd.

"Clix-On" provides a permanent connection with air-tight corners, matching pair of refrigerator and is completely adjustable, can be quickly installed. It is made in flexibility of kitchen layout and collar sizes of 5, 6, and 7 in.



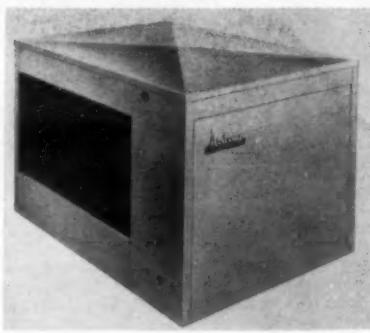
## Airtemp Restyles 5-Hp. Condensing Unit

KEY NO. G-347

DAYTON—Airtemp Div., Chrysler Corp., has announced the restyling of the company's 5-hp. air-cooled condensing unit.

Unit now designated Airtemp model 1205-1 has been redesigned externally and internally. New design, compared to the model's predecessor, has reduced unit height from 35 in. to 32 $\frac{1}{16}$  in. Width has been pared from 58 in. to 36 $\frac{1}{2}$  in. Unit weight has been reduced from 895 to 845 lbs. The cabinet retailoring it is felt will increase the conditioner's application versatility for both home and commercial use.

Internally, condenser coils (18 $\frac{1}{2}$  in high, 36 $\frac{1}{2}$  in. wide) are located one on each side of the unit. With the earlier model they were located at the back one above the other. The new 1205-1 also features a single condenser blower; a quick response expansion valve; magnetic starter with magnetic overload protection and Hi-Low pressure cutout; mild weather control to eliminate tripouts of low-pressure control during starts.



in mild weather; five-cylinder sealed radial compressor—factory equipped with crankcase heater and heater switch; five-year refrigerant system warranty, covering compressor, expansion valve, condenser coils, and receiver and evaporator coil.

Unit voltage may be either 220 three phase (standard), 208 three phase, or 230 single phase.

Application-wise the 5-hp. condensing unit has been engineered and designed for use with a wide series of matching fan-coil, evaporator coil, or blower units produced by Airtemp.

## Information Center

For more information on What's New products, current literature and catalogs available, equipment advertised in AIR CONDITIONING & REFRIGERATION NEWS use Key Numbers where designated or specify products advertised and we'll see that you receive this information promptly.

### Products Advertised

(list name, page, and issue date)

.....

.....

.....

### What's New or Current Literature Available

Key No. .... Key No. ....

Name ..... Title .....

(Please Print)

Company .....

Street .....

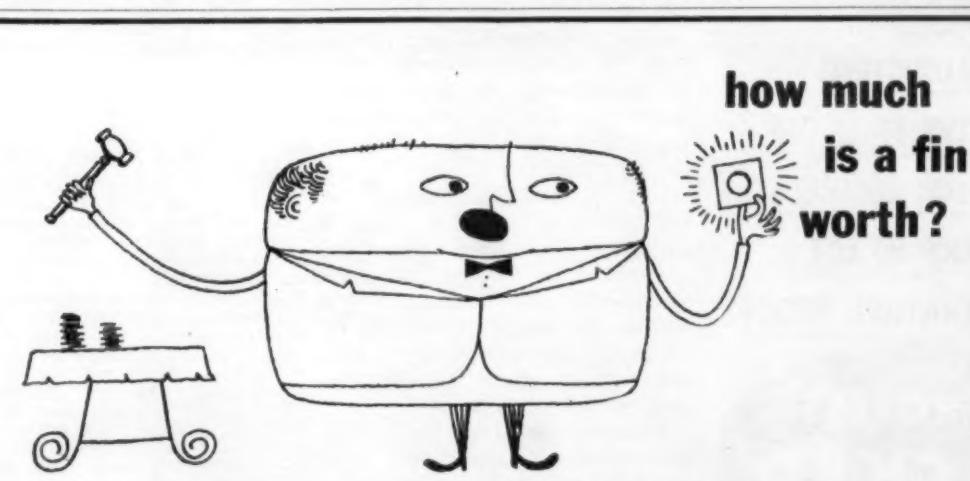
City ..... Zone ..... State .....

Type of Business .....

MAIL THIS FORM TO

AIR CONDITIONING & REFRIGERATION NEWS  
Readers Service Dept.

450 W. FORT ST. DETROIT 26, MICHIGAN



how much  
is a fin  
worth?

Anyone who thinks that aluminum fin stock is nothing to get excited about has another think coming. At any rate, he has never been exposed to our aluminum fin stock which is not only superior in quality, but also lower in price!

A heady statement, this, and lest we be accused of throwing about wild and reckless claims, we have marshalled the facts to back us up.

We import this superior aluminum fin stock from one of the great rollers of light gauge strip in Western Germany—a mill with an enormous backlog of experience. The aluminum itself is Alloy 1100 and the stock is rolled out with such precision that tolerances are half again as close as standard commercial tolerances. Yet, you pay no premium for this extra precision. You can have these coils in widths up to 24 inches and thicknesses from .006" to .012". The carefully controlled finish is ideally suited for stamping condenser coil fins, vent pipe and fittings, and the like.

All this certainly spells out a superior product, but we promised you heaven too. And you get it—in the shape of price savings as high as 10%! Ask for our quotations and see.

For much the same reasons, you will also be interested in our precision drawn copper tubing, which we supply in special tempers suitable for hydraulic and mechanical expansion. And in our mandrel-wire drawn capillary tubing of extremely close dimensional tolerances for use where controlled pressure drops are required. Here again, the superiority of the product is matched by the dollar savings—this time a fat 10% to 15%!

If all this sounds too good to be true, we can assure you that over the past 8 years many American firms have found that it is true—to the great delight of their presidents, engineers and treasurers.

Samples, complete specifications and quotations are as close as your phone. Delivery is quick and dependable. Why not call or write us today?

We make it our business to search out new and unusual products made only abroad. Many leading American plants are already volume users of: LURIUM®, a 99.99% high purity aluminum alloy; ANO-COIL®, color anodized aluminum strip in coils; seamless stainless steel bellows; precision drawn tubing. Interested?

## FROMSON ORBAN COMPANY, INC.

261 Madison Ave., New York 16, N. Y., MURRAY HILL 7-0920

## N.Y. BBB Room Unit Ad Standards--

(Concluded from Page 1) a mandatory matter, when reference with ARI Standard 110-56.

Jackson explained that regarding "the important question of statement in advertising of B.t.u. capacity, the original draft which we presented to local distributors for their consideration stated that 'Any statement of cooling capacity should be expressed in terms of the B.t.u. per hour capacity of the unit . . .' and 'if a reference is made to horsepower, tons, amps, or volts, such reference shall be immediately and prominently accompanied by the B.t.u. per hour capacity . . .'

"After extended discussion it was apparent that half of the distributors represented at the meeting were unwilling to voluntarily agree at this time that the B.t.u. capacity should be stated in each advertisement, as

the view held by some that the industry had not yet moved sufficiently far along in terms of any central testing or control to justify the requirement that every advertiser should state the B.t.u. in advertising.

"The majority of those present did concur, however, in the idea that the bureau itself should include a recommendation to this effect along with the standards, and this was done."

The recommendation states that "if any reference is made in advertising to horsepower, amps, volts, or the price of current model room air conditioners, such reference shall be immediately and prominently accompanied by the B.t.u. per hour capacity, as defined above."

Jackson noted that since the standards are voluntary, "it would be inappropriate to include the provision in the standards unless all of the distributors would abide by it."

Pointing out that the standards are for the year 1957, Jackson said "we hope that sufficient further progress will be made in the use and application of uniform B.t.u. ratings so that such a requirement can be included with unanimous concurrence by 1958."

The revised code follows generally standards set by the National BBB, but picks up some rules on deception, accuracy, and extra charges from the local appliance, radio, television standard. It replaces a nine-point code adopted in July, 1954.

Text of the code follows:

### 1. ACCURACY

All advertising statements for a room air conditioner shall be accurate, free of the capacity to mislead or deceive the consumer and shall reveal material facts, the deceptive concealment of which might cause customers to be misled.

### 2. DEFINITION

A room air conditioner is a factory-made, encased assembly designed primarily as a unit for mounting in a window or through a wall, or as a console, for free delivery of conditioned air to an enclosure and without ducts for conditioned air supply or return. It includes a prime source of refrigeration and dehumidification and means for circulating and cleaning air, and may also include means for ventilating, heating, or performing other functions. It simultaneously controls the four factors of temperature, humidity, circulation, and filtering.

### 3. FANS, COOLERS, ETC.

Air coolers, air purifiers, evaporative coolers, air humidifiers and dehumidifiers, and air circulators, such as fans and blowers, as well as any other devices not performing the four minimum functions of an air conditioner, should be described for what they are, and should not be described as air conditioners.

### 4. COOLING CAPACITY AND PRICE

A. Statements of cooling capacity when expressed in terms of B.t.u.-per-hour capacity of the unit shall be according to its rating based on the ARI Standard 110-56.

B. In view of the acceptance of B.t.u.-per-hour capacity as the appropriate and preferred basis for expression of cooling capacity, the term "tons" shall not be used to express cooling capacity of room air conditioners.

C. Whenever a price is quoted or featured, the size or capacity of the unit should also be prominently featured.

### 5. DISCONTINUED MODELS

Whenever an advertised room air

conditioner is no longer listed by the manufacturer or sold by the distributor, having been either discontinued entirely or supplanted by another model, and being no longer designated by the trade as a current model, either the year of the model, or the fact that it is a discontinued model, shall be prominently displayed.

### 6. AREA COOLING CLAIMS

Recognizing the wide variation in construction, insulation, temperature, and other controlling factors, advertising claims shall not be made as to the area cooling capacity of individual room air conditioners.

### 7. SPECIAL EQUIPMENT OF SERVICE

No advertisement or representation of a room air conditioner, or price thereof, should be used which deceptively or misleadingly conceals the fact that the advertised price does not cover necessary or advertised accessories or devices or services which must be purchased with the unit at an additional charge; or which falsely or deceptively states or implies that the advertised price covers such accessories, devices, or services, when such is not the fact.

### 8. WIRING

No advertisement should state or claim that present electric circuits or wiring or outlets are adequate, that alterations in present circuits or wiring or outlets are unnecessary, or that additional expense for electrical installation is never required. Claims such as "just plug in," "no special wiring needed," "no wiring problem," "breaks the wiring barrier," "operates on regular house current," or other claims creating the impression that special wiring or changes in existing installations are not necessary, should not be used.

### 9. INSTALLATION

When installation is mentioned in an advertisement, and the intent is to refer only to a normal window installation (without inclusion of additional necessary charges, such as wiring, etc.) this fact should be made clear. (One example of correct usage: "Normal window installation included.")

### 10. QUANTITY

Merchandise when advertised should be on hand or available in sufficient quantities to supply a reasonable demand. If all the advertised merchandise is not on sale in all the stores owned by the advertiser, the copy should plainly state at which stores it is on display. Advertisements should not be published unless it is certain that the merchandise offered is on display.

### 11. ILLUSTRATIONS

A. Illustrations of advertised merchandise shall conform without exaggeration or essential difference to the appearance of the merchandise actually on sale.

Merchandise shall conform without exaggeration or essential difference to the appearance of the merchandise actually on sale.

B. Illustrations or layouts of any nature which show an air conditioning unit in false or misleading relation to a featured price, shall not be used. If an air conditioning unit illustrated is not the model to which the copy or a featured price applies, the selling price of the illustrated model shall be listed in prominent and legible figures directly beneath, or in close proximity to the illustration; and in such case deception would be avoided if it were as conspicuous and in the same size type as any other price in the advertisement.

### 12. GUARANTEES

Guarantees or Warranties shall disclose conspicuously their exact scope and conditions, and shall be clear as to who is responsible for their fulfillment. If a room air conditioner is advertised as "guaranteed" and the guarantee is not unconditional, material conditions and limitations applicable to the guarantee shall also be stated in conjunction therewith. Guarantee statements shall disclose any additional charges or expenses required of the purchaser in making them operative.

Advertised guarantees which apply to a part, or parts of room air conditioning equipment shall be clearly stated to avoid the impression that they apply to the whole. Service guarantees shall be clearly defined as to their nature and extent. Advertising of "time" guarantees shall be specific as to the period covered.

### 13. DISPARAGEMENT

A room air conditioner shall be advertised and sold on its merits; advertisers shall refrain from attacking competitors or reflecting unfairly upon their products, service, or methods of doing business.

### 14. LAYOUTS

An advertisement shall not be prepared or laid out in such manner as to confuse or mislead the reader with respect to any portion of its composition. Layouts of advertisements shall not be so constructed or brand names so stated as to indicate that the price or prices quoted in advertising are the selling price or prices of the units named, described, or illustrated, unless such is the fact.

### 15. EXTRA CHARGES

No extra charge other than the price advertised should be required to obtain delivery. This does not apply to sales or other emergency taxes which the public understands must be added to the selling price. No extra payment other than the terms advertised should

be required to obtain delivery.

### 16. RENTALS

In offering room air conditioners for rent, when the amount of rental for a certain period of time (e.g. \$1 per week) is quoted, unless the said period is the total rental time advertised, the total minimum rental time required must be stated. Any required deposit or any extra charge for window installation and/or service must also be stated, as well as any other requirements or limitations of the offer.

### 17. DECEPTION

Deceptive trade-in allowances, fictitious list prices, false and exaggerated comparative prices or savings claims, misleading "free" offers, unfounded superlatives, and bait advertising shall not be used. Appropriate sections of the Radio, Television and Appliance Standards, which can be applied to air conditioners, should also be observed.

(To avoid the practice of "bait" advertising, any article shall be immediately available, willingly demonstrated, and sold at the featured price to any customer requesting same. No attempt to avoid the sale of advertised merchandise, either through the use of disparaging remarks or implications that such goods are not desirable, or otherwise, shall be made.)

### RECOMMENDATIONS

In addition to the above standards which have been unanimously accepted by cooperating room air conditioner distributors in the metropolitan New York area, the Better Business Bureau of New York City recommends that if any reference is made in advertising to horsepower, amps, volts, or the price of current model room air conditioners, such reference shall be immediately and prominently accompanied by the B.t.u.-per-hour capacity, as defined above.

## PRESSTITE PERMAGUM® Sealing Compound

- for sealing joints and seams
- for plugging and caulking
- Supplied in beads, tape or bulk

See your wholesaler or WRITE

## PRESSTITE-KEYSTONE Engineering Products COMPANY

39th & Chouteau, St. Louis, Mo.

**We're SPECIALISTS in**

**REFRIGERATION**

**AIR CONDITIONING**

**ELECTRIC MOTORS**

**PARTS and Supplies**

**WE SAVE YOU MONEY** because we're specialists, with the largest selection in the world—over 10,000 items—at lowest prices. They're all illustrated, priced and described in our newest **HARRY ALTER DEPENDABOOK**—"the standard of the trade."

**WHOLESALE ONLY**

Write on your letterhead for the DEPENDABOOK

**The HARRY ALTER CO., Inc., 1717 S. Wabash Ave., Dept. A, Chicago 16, Ill.**

or visit branches

134 Lafayette Street  
New York 13, N. Y.

122 Parkhouse Street  
Dallas 7, Texas

Bldg. B, Unit 8, 600 Stewart Avenue, S. W.  
Atlanta 10, Ga.

## Order Your Extra Copies Now of the March 18th Air Conditioning "Show Case" Issue

The supply is limited . . . the demand for copies the greatest in our history. Guarantee that each member of your firm will have his "Show Case" issue to consult daily. Order NOW.

1 - 9 copies (\$1 each) 10 - 49 copies (\$.75) 50 or more (\$.50)

**AIR CONDITIONING & REFRIGERATION NEWS**  
450 WEST FORT ST. • DETROIT 26, MICH.

**KEROTEST**

KEROTEST MANUFACTURING CO.  
2502 Liberty Avenue  
Pittsburgh 22, Pa.



## Sell any butchers recently . . . ?

*Sell the local contractor-dealer first with the help of Air Conditioning & Refrigeration News.*

A recent survey of 216 independent food stores in the highly-industrialized Flint (Mich.) area\* showed "a considerable amount of salesmanship" needed to sell the commercial refrigeration market. Local contractor-dealers who make over 90 per cent of these installations need the product information, engineering changes and improvements factory advertising carries to remain competitive. AIR CONDITIONING & REFRIGERATION NEWS can help you back your contractor-dealers.

Commercial refrigeration contractor-dealers turn to AIR CONDITIONING & REFRIGERATION NEWS as the only

publication in the field which can provide them with the information they must have to stay competitive. In Detroit, for example, 70 per cent of contractor-dealers—making 80 per cent of all installations—are paid NEWS subscribers.

If you want to sell the butcher—or the store manager, the shop keeper, the tavern owner—sell the local contractor-dealer first. He's the man who controls the bulk of the commercial refrigeration market. And he reads "the newspaper of the industry," AIR CONDITIONING & REFRIGERATION NEWS. So, do the first job where the first job is being done—in the NEWS!

\*Part of a comprehensive and continuing market study conducted by AIR CONDITIONING & REFRIGERATION NEWS.

**AIR CONDITIONING  
& REFRIGERATION**

*The Newspaper of the Industry*



**NEWS**

450 West Fort Street, Detroit 26, Michigan

NEW YORK, 521 Fifth Ave., Murray Hill 2-1928-9, Robert M. Price.  
CHICAGO, 134 S. LaSalle St., FRanklin 2-8093, Allen Schildhamer.  
LOS ANGELES, 4710 Crenshaw Blvd., AXminster 2-9501, Justin Hannon.  
DETROIT, 450 West Fort St., WOODWARD 2-0924, Joe Sullivan.

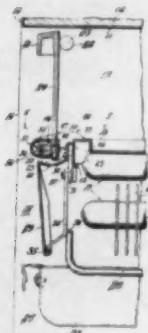
*The Newspaper That Carries More Advertising By Far Than Any Other Publication In The Field.*

*For more information about products advertised on this page use Information Center, page 23.*

## PATENTS

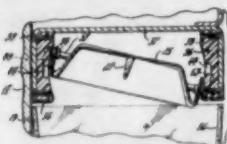
Week of December 4

**2,772,541. HINGED CLOSURE MEMBER FOR LOW TEMPERATURE COOLING COMPARTMENTS.** Ragnar Edward Deutgen, Stockholm, Sweden, assignor to Aktiebolaget Electrolux, Stockholm, Sweden, a corporation of Sweden. Application Feb. 2, 1954, Serial No. 407,720. Claims priority, application Sweden Feb. 6, 1953. 15 Claims. (Cl. 62-103.)



1. In a refrigerator comprising a cabinet including a thermally insulated interior providing a compartment having an access opening, cooling means for cooling said compartment below the freezing temperature of water to maintain the latter as a freezing space, a closure member in the thermally insulated interior for closing the access opening, structure including a plurality of elements in spaced apart relations for mounting said closure member for pivotal movement about a first horizontal axis passing through first regions of said elements and for mounting said elements for pivotal movement about a second fixed horizontal axis passing through second regions of said elements removed from said first regions, resilient means for effecting pivotal movement of said closure member about the first horizontal axis to bias said closure member to its closed position at the access opening, locating means for maintaining said first horizontal axis at a substantially definite position when pivotal movement of said closure member about said first axis is essentially unobstructed in the act of gaining access to said compartment, and said structure being operable to effect pivotal movement of said closure member about said second horizontal axis when a pulling effort greater than normal is required to open said closure member, especially when parts of said closure member at the vicinity of said first axis may be subject to formation of frost or ice.

**2,772,542. ICE TRAY.** Richard S. Gaugler and Robert Galin, Dayton, Ohio, assignors to General Motors Corp., Detroit, Mich., a corporation of Delaware. Application March 14, 1955, Serial No. 494,085. 12 Claims. (Cl. 62-105.)

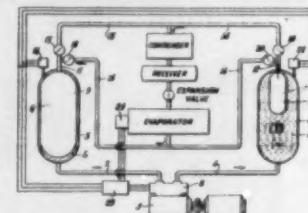


1. In combination, an elongated support having an open end, a unitary freezing device including a distortable tray and a plurality of rigid walls therein, said rigid walls having a point of loose attachment to said tray for movement with respect thereto, said loose attachment point of said walls to the tray locking said walls therein against removal therefrom, said walls dividing the interior of said tray into compartments in which water is to be frozen into separated ice blocks, said tray of said device and walls located therein together with ice blocks in said compartments being insertable as a unit into said elongated support in an inverted position through the open end thereof, means on the tray of said unitary device for engaging portions of said support, said means cooperating with said portions of said support and rendered effective automatically in response to moving said device in one direction along said support for flexing and imparting a twist to said tray to bodily shift said walls relative thereto about their loose attaching points and break the bond between ice blocks and their compartments, and means rendered effectively by continued movement of said device in said one direction along said support beyond the position of said device at which the tray thereof is twisted for quickly releasing the torsion of said tray while the device is supported in said support to flip ice blocks out of said unitary freezing device.

**2,772,543. MULTIPLE HYDRAULIC COMPRESSOR IN A REFRIGERATION SYSTEM.** Frank Berry, Corinth, Miss. Application March 24, 1953, Serial No. 344,359. 1 Claim. (Cl. 62-115.)

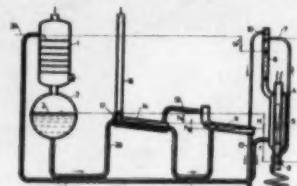
In a refrigeration system, two reservoirs for expanded refrigerant, said

reservoirs being directly connected to a condenser and evaporating system, a hydraulic pump connected to said reservoirs for pumping liquid out of one of said reservoirs through the pump



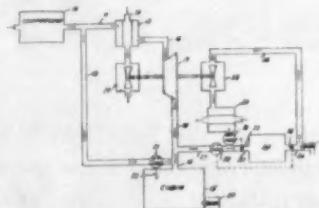
and directly into the other of said reservoirs and alternately to return liquid from said other reservoir to the first reservoir, each reservoir arranged to receive expanded refrigerant from the condenser and evaporating system when said hydraulic pump is removing liquid from said reservoir and transferring said liquid into the other reservoir, and each reservoir further arranged to deliver compressed refrigerant to the condenser and evaporating system when said hydraulic pump is forcing liquid from said other reservoir back into the first reservoir.

**2,772,544. ABSORPTION REFRIGERATING APPARATUS EMPLOYING INERT GAS.** Alvar Lenning, Stockholm, Sweden, assignor to Bolinders Fabriks Aktiebolag, Kallhall, Sweden, a corporation of Sweden. Application Nov. 16, 1953, Serial No. 392,379. Claims priority, application Sweden Nov. 21, 1952. 2 Claims. (Cl. 62-119.5.)



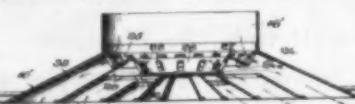
1. In absorption refrigerating apparatus operating with inert gas and comprising a boiler, a thermo-syphon for elevating absorption liquid into the boiler, an absorber, a conduit for weak solution leading from said boiler to said absorber, and an analyzer in which hot vapour from the boiler is brought into direct contact with rich solution, that improvement which consists in conveying hot vapour from said analyzer into a separate vessel in which the vapour gives off condensate in the process of being cooled by rich liquid, through the intermediary of said condensate, the cooling rich solution being then conducted to the analyzer through a conduit which is in heat exchanging relation to said conduit for the weak solution.

**2,772,621. AIRCRAFT AIR CONDITIONING SYSTEM.** Walter E. Arnoldi, West Hartford, Conn., assignor to United Aircraft Corp., East Hartford, Conn., a corporation of Delaware. Application Nov. 16, 1953, Serial No. 392,104. 13 Claims. (Cl. 98-1.5.)



1. In combination with an aircraft air conditioning system of the type adapted to maintain cabin air at a selected temperature and including an air supply for the cabin, means to adapt the system to maintain air at another temperature in an isolated compartment which has an inlet and an outlet, said means including a first conduit interconnecting said air supply and said inlet, a second conduit interconnecting said outlet and said inlet, means in said second conduit for compensating the pressure drop in said compartment and for circulating air from said outlet to said inlet, and thermo-responsive flow control means in said first conduit adjacent said inlet and including a thermo-sensitive element disposed in said outlet.

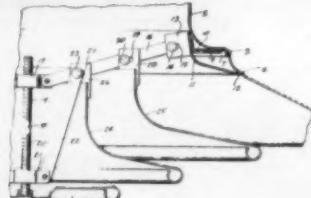
**2,772,623. AIR OUTLET DEVICE FOR VENTILATING APPARATUS.** Leonard E. Phillips, East Hartford, and William J. Waeldner, Farmington, Conn., assignors to Anemostat Corp. of America, New York, N. Y., a corporation of Delaware. Application Nov. 24, 1952, Serial No. 322,965. 3 Claims. (Cl. 98-40.)



1. An air outlet device comprising an outer open-ended hollow flaring mem-

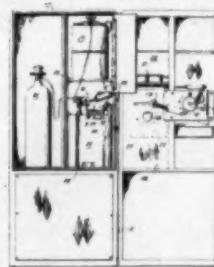
ber, through the smaller or rear end of which air is supplied to the device, an inner hollow flaring member, and an intermediate open-ended hollow flaring member, said members being spaced apart to provide between them outer and inner passageways flaring forwardly relative to the longitudinal axis of the device for flow of supply air therethrough into an enclosure, a plate including stepped portions extending across the rear ends of said passageways, respectively said stepped portions having therein apertures disposed in side to side spaced apart relationship to each other to cause supply air flowing through said passageways to be divided into said side to side spaced apart streams, said plate further including a flared portion extending between said stepped portions and substantially aligned with said intermediate flaring member and effective to intercept a portion of the supply air and to deflect it laterally outward through said outer passageway, and means providing for flow of ambient air through the rear end portions of said inner and said intermediate flaring members into the rear end portions, respectively, of said passageways for intermixing with the supply air streams flowing through said passageways.

**2,772,624. DIFFUSER.** Wilbur R. F. Carnes, Madison, Wis., assignor to W. R. Carnes Co., Verona, Wis., a corporation of Wisconsin. Application Nov. 6, 1952, Serial No. 319,146. 9 Claims. (Cl. 98-40.)



6. In a diffuser the combination comprising an outer circular shell, a first hub centrally disposed within said shell for axial movement with respect to said shell, a plurality of supporting struts angularly spaced about said first hub and each extending between and cooperatively engaged with said first hub and said shell by a tiltable connection with each and wherein one of the connections has a sliding engagement to allow for tilting movement and radial displacement of a strut end as said first hub is moved axially, a second hub axially spaced from said first hub, an axially extending adjustment shaft extending between said first and second hubs and threadedly engaged therewith with threads having a pitch to displace said hubs relative to one another upon rotation of said shaft, an adjustment strut pivotally joined at one end of said second hub and pivotally joined at the opposite end to one of said supporting struts, and an air deflecting shell carried by said supporting struts for axial movement upon rotation of said adjustment shaft.

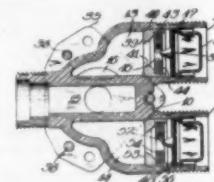
**2,772,612. DISPENSING VALVE AND OPERATING MEANS FOR BEVERAGE VENDING MACHINES.** Jack J. Booth, Dallas, Tex. Application March 26, 1952, Serial No. 278,721. 6 Claims. (Cl. 222-70.)



1. A mixed drink dispensing machine comprising a source of carbonated water under pressure; a source of syrup under pressure; a mixing valve having a body provided with a mixing chamber; means connecting said mixing chamber to the source of syrup; means connecting said mixing chamber to said source of carbonated water, said body having an outlet opening communicating with said mixing chamber and closed by a valve; an actuating lever for opening said valve mounted on said body; a mechanical timer operatively associated with said actuating lever for contacting said actuating lever and moving it to open the valve for a predetermined period of time whereby a predetermined quantity of carbonated water and syrup is dispensed each time the timer is actuated, said mechanical timer including a reciprocating rod mounted adjacent said actuating lever, said rod having a plurality of longitudinally spaced teeth, a gear rotatably mounted adjacent said rod and meshing with said gear teeth, a cam secured to said gear for rotation therewith, said cam having an arcuate outer surface, said actuating lever having an end projecting into the path of movement of said cam, said arcuate surface contacting said lever and moving it from its rest position in one direction as said gear is rotated in

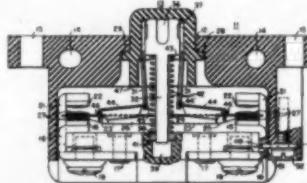
one direction, said arcuate surface contacting said lever and moving it in the opposite direction as said gear is rotated in the opposite direction, means for predetermining the rate of movement of said timer rod in said opposite direction; and means for moving said timer rod a predetermined distance in said one direction.

**2,772,833. FLUID MIXING DEVICE.** Thomas B. Chace, Winnetka, Ill., assignor to The Dole Valve Co., Chicago, Ill., a corporation of Illinois. Application Sept. 28, 1951, Serial No. 248,829. 11 Claims. (Cl. 236-12.)



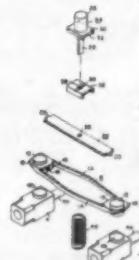
1. A fluid control means providing a substantially constant rate of flow regardless of pressure variations of the fluid at the source and adjusting the flow rate in accordance with the temperature of the fluid comprising a conduit, a deformable flow control annulus seated therein and flexing in the direction of flow through said conduit, a member on the upstream side of said annulus at least partially projecting into said annulus, said member being shaped to vary the effective size of the opening in said annulus upon axial movement with respect thereto, and a temperature responsive element carrying said member and moving said member axially with respect to said annulus as the temperature of the fluid varies.

**2,773,144. SNAP ACTION SWITCH.** Ralph B. Immel and Martin Wibell, Williamsburg, N. Y., assignors to Westinghouse Electric Corp., East Pittsburgh, Pa., a corporation of Pennsylvania. Application April 30, 1953, Serial No. 352,096. 9 Claims. (Cl. 200-67.)



1. In a switch, in combination, a generally rectangular contact base of insulating material, a pair of spaced contact members disposed in line with one dimension of the base and secured to the base, an additional contact member disposed above and spaced from each one of the first-named contact members, said additional contact members being secured to the base, a bridging contact member movable into and out of bridging engagement with said secured contact members, a reciprocating operating member having two oppositely disposed slots therein, a separately mounted substantially flat operating spring disposed in each slot in the operating member, substantially rigid toggle levers connecting said springs and said bridging contact member to actuate the latter, said bridging contact member having a generally rectangular opening therein for receiving the toggle levers, a guide pin disposed in the operating member between said springs, means extending from the guide pin for engaging the springs to retain them in the operating member, a cover for the switch, a recess in said base, and a bearing in said recess for the lower end of said guide pin, said bridging contact member being rotatable about said guide pin as an axis in a plane parallel to the contact base when the lower end of the guide pin is in said bearing and prior to the installation of the cover.

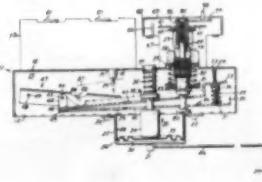
**2,773,145. SNAP ACTION SWITCH.** Ralph B. Immel, Williamsburg, N. Y., assignor to Westinghouse Electric Corp., East Pittsburgh, Pa., a corporation of Pennsylvania. Application July 19, 1954, Serial No. 443,997. 7 Claims. (Cl. 200-67.)



1. A two position snap switch comprising two pairs of stationary contacts, electrical insulating means mounting the corresponding contacts of the respective pairs in spaced confronting relation, a movable contact bridge of electrical conducting spring metal having a pair of spaced contact platforms interconnected by a pair of flat oppositely bowed spring members the planes of which are substantially at right angles to the planes of the contact platforms, contacts mounted on

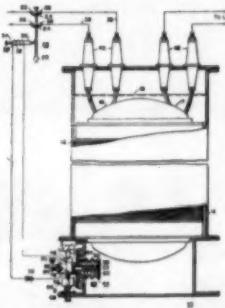
said platforms, a flat actuating spring member bowed in a first position between the confronting edges of said platforms exerting forces thereon in opposition to those of said oppositely bowed flat spring members, a plunger slidably mounted in said electrical insulating means, and means on said plunger engaging said flat actuating spring member and positioning said movable contacts against one pair of said stationary contacts, movements of said plunger in a direction to reverse bow said actuating spring member from said first position causing said actuating spring member to move said movable contacts away from each other against the tension of said oppositely bowed flat spring members, reverse bowing of said actuating spring member being effective to drive said movable contact bridge in a direction to engage the contacts thereon with the remaining pair of stationary contacts.

**2,773,146. PRESSURE SWITCH.** Louis E. Sauer, Sharon, Pa., assignor to Westinghouse Electric Corp., East Pittsburgh, Pa., a corporation of Pennsylvania. Application Nov. 23, 1954, Serial No. 470,639. 3 Claims. (Cl. 200-63.)



1. In combination, a receptacle containing a fluid under pressure, an arm pivoted about a predetermined pivot point, a switch having operating means for effecting an actuation of the switch, the switch being mounted on the pivoted arm for movement therewith, a mass also mounted on the pivoted arm for movement therewith, said mass being adjustable so that its distance from the pivot point can be varied, pressure responsive means including an actuating member disposed to engage and effect an actuation of said switch operating means, said actuating member being responsive to the pressure of the fluid for actuating the switch in response to sudden changes in fluid pressure and for effecting bodily movement of the pivoted arm and switch, without actuating the switch, in response to gradual changes in the fluid pressure, and means for limiting the movement of the switch so that the said actuating member can effect an actuation of the switch when the fluid pressure reaches a predetermined value.

**2,773,147. LIMIT CONTROL.** Albert L. Judson, Portland, Ore., assignor to Iron Fireman Mfg. Co., Portland, Ore. Application May 3, 1954, Serial No. 427-125. 3 Claims. (Cl. 200-63.)

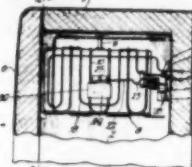


1. An alternative direct or reverse acting limit control comprising a frame, an electric switch secured on said frame, said switch having an open position and a closed position, a condition responsive means secured on said frame, an actuating lever for said switch, a pivot pin, said frame and said lever having a first set of bearings for said pivot pin formed thereon and a second set of bearings for said pivot pin formed thereon, said actuating lever being adapted when pivoted to said frame by said pin in either of said sets of bearings to rotate in the same direction about said pin to operate said switch to one of its said positions, a second lever, a third lever, means hinging one end of each of said second and third levers to said actuating lever at a point intermediate said first and said second bearings positions, the free ends of said second and third levers extending in the same direction from said hinging means, means resiliently biasing the free end of said second lever from the free end of said third lever, adjustable stop means carried on said frame, means adapting said adjustable stop means to limit the movement of said second and said third levers by said resilient biasing means, and means adapting said condition responsive means to rock said second and third levers about said hinging means, about said pivot pin, said frame and said lever having a first set of bearings for said pivot pin formed thereon and a second set of bearings for said pivot pin formed thereon, said actuating lever being adapted when pivoted to said frame by said pin in either of said sets of bearings to rotate in the same direction about said pin to operate said switch to one of its said positions, a second lever, a third lever, means hinging one end of each of said second and third levers to said actuating lever at a point intermediate said first and said second bearings positions, the free ends of said second and third levers extending in the same direction from said hinging means, means resiliently biasing the free end of said second lever from the free end of said third lever, adjustable stop means carried on said frame, means adapting said adjustable stop means to limit the movement of said second and said third levers by said resilient biasing means, and means adapting said condition responsive means to rock said second and third levers about said hinging means, about said pivot pin, said frame and said lever having a first set of bearings for said pivot pin formed thereon and a second set of bearings for said pivot pin formed thereon, said actuating lever being adapted when pivoted to said frame by said pin in either of said sets of bearings to rotate in the same direction about said pin to operate said switch to one of its said positions, a second lever, a third lever, means hinging one end of each of said second and third levers to said actuating lever at a point intermediate said first and said second bearings positions, the free ends of said second and third levers extending in the same direction from said hinging means, means resiliently biasing the free end of said second lever from the free end of said third lever, adjustable stop means carried on said frame, means adapting said adjustable stop means to limit the movement of said second and said third levers by said resilient biasing means, and means adapting said condition responsive means to rock said second and third levers about said hinging means, about said pivot pin, said frame and said lever having a first set of bearings for said pivot pin formed thereon and a second set of bearings for said pivot pin formed thereon, said actuating lever being adapted when pivoted to said frame by said pin in either of said sets of bearings to rotate in the same direction about said pin to operate said switch to one of its said positions, a second lever, a third lever, means hinging one end of each of said second and third levers to said actuating lever at a point intermediate said first and said second bearings positions, the free ends of said second and third levers extending in the same direction from said hinging means, means resiliently biasing the free end of said second lever from the free end of said third lever, adjustable stop means carried on said frame, means adapting said adjustable stop means to limit the movement of said second and said third levers by said resilient biasing means, and means adapting said condition responsive means to rock said second and third levers about said hinging means, about said pivot pin, said frame and said lever having a first set of bearings for said pivot pin formed thereon and a second set of bearings for said pivot pin formed thereon, said actuating lever being adapted when pivoted to said frame by said pin in either of said sets of bearings to rotate in the same direction about said pin to operate said switch to one of its said positions, a second lever, a third lever, means hinging one end of each of said second and third levers to said actuating lever at a point intermediate said first and said second bearings positions, the free ends of said second and third levers extending in the same direction from said hinging means, means resiliently biasing the free end of said second lever from the free end of said third lever, adjustable stop means carried on said frame, means adapting said adjustable stop means to limit the movement of said second and said third levers by said resilient biasing means, and means adapting said condition responsive means to rock said second and third levers about said hinging means, about said pivot pin, said frame and said lever having a first set of bearings for said pivot pin formed thereon and a second set of bearings for said pivot pin formed thereon, said actuating lever being adapted when pivoted to said frame by said pin in either of said sets of bearings to rotate in the same direction about said pin to operate said switch to one of its said positions, a second lever, a third lever, means hinging one end of each of said second and third levers to said actuating lever at a point intermediate said first and said second bearings positions, the free ends of said second and third levers extending in the same direction from said hinging means, means resiliently biasing the free end of said second lever from the free end of said third lever, adjustable stop means carried on said frame, means adapting said adjustable stop means to limit the movement of said second and said third levers by said resilient biasing means, and means adapting said condition responsive means to rock said second and third levers about said hinging means, about said pivot pin, said frame and said lever having a first set of bearings for said pivot pin formed thereon and a second set of bearings for said pivot pin formed thereon, said actuating lever being adapted when pivoted to said frame by said pin in either of said sets of bearings to rotate in the same direction about said pin to operate said switch to one of its said positions, a second lever, a third lever, means hinging one end of each of said second and third levers to said actuating lever at a point intermediate said first and said second bearings positions, the free ends of said second and third levers extending in the same direction from said hinging means, means resiliently biasing the free end of said second lever from the free end of said third lever, adjustable stop means carried on said frame, means adapting said adjustable stop means to limit the movement of said second and said third levers by said resilient biasing means, and means adapting said condition responsive means to rock said second and third levers about said hinging means, about said pivot pin, said frame and said lever having a first set of bearings for said pivot pin formed thereon and a second set of bearings for said pivot pin formed thereon, said actuating lever being adapted when pivoted to said frame by said pin in either of said sets of bearings to rotate in the same direction about said pin to operate said switch to one of its said positions, a second lever, a third lever, means hinging one end of each of said second and third levers to said actuating lever at a point intermediate said first and said second bearings positions, the free ends of said second and third levers extending in the same direction from said hinging means, means resiliently biasing the free end of said second lever from the free end of said third lever, adjustable stop means carried on said frame, means adapting said adjustable stop means to limit the movement of said second and said third levers by said resilient biasing means, and means adapting said condition responsive means to rock said second and third levers about said hinging means, about said pivot pin, said frame and said lever having a first set of bearings for said pivot pin formed thereon and a second set of bearings for said pivot pin formed thereon, said actuating lever being adapted when pivoted to said frame by said pin in either of said sets of bearings to rotate in the same direction about said pin to operate said switch to one of its said positions, a second lever, a third lever, means hinging one end of each of said second and third levers to said actuating lever at a point intermediate said first and said second bearings positions, the free ends of said second and third levers extending in the same direction from said hinging means, means resiliently biasing the free end of said second lever from the free end of said third lever, adjustable stop means carried on said frame, means adapting said adjustable stop means to limit the movement of said second and said third levers by said resilient biasing means, and means adapting said condition responsive means to rock said second and third levers about said hinging means, about said pivot pin, said frame and said lever having a first set of bearings for said pivot pin formed thereon and a second set of bearings for said pivot pin formed thereon, said actuating lever being adapted when pivoted to said frame by said pin in either of said sets of bearings to rotate in the same direction about said pin to operate said switch to one of its said positions, a second lever, a third lever, means hinging one end of each of said second and third levers to said actuating lever at a point intermediate said first and said second bearings positions, the free ends of said second and third levers extending in the same direction from said hinging means, means resiliently biasing the free end of said second lever from the free end of said third lever, adjustable stop means carried on said frame, means adapting said adjustable stop means to limit the movement of said second and said third levers by said resilient biasing means, and means adapting said condition responsive means to rock said second and third levers about said hinging means, about said pivot pin, said frame and said lever having a first set of bearings for said pivot pin formed thereon and a second set of bearings for said pivot pin formed thereon, said actuating lever being adapted when pivoted to said frame by said pin in either of said sets of bearings to rotate in the same direction about said pin

## PATENTS

Week of Dec. 11

2,773,354. REFRIGERATOR DEFROST TERMINATION CONTROL SYSTEM. Harry L. Tillman, Evansville, Ind., assignor, by mesne assignments, to Whirlpool-Seeger Corp., a corporation of Delaware. Application May 4, 1953, Serial No. 352,918. 3 Claims. (Cl. 62-22.)



1. In a refrigeration system having an evaporator and a means for defrosting said evaporator, a defrost termination control comprising a container mounted to one wall of said evaporator in thermal contact therewith, a quantity of ice disposed within said container when said evaporator is operating on a refrigeration cycle, said container formed in the shape of an open trough so that any water frozen therein can expand without breaking said container and so that any water and ice lost therefrom by evaporation is replaced by defrost water flowing over the surfaces of said evaporator and into said trough-shaped container, a length of tubing being closed at one end thereof, a bellows, the other end of said length of tubing being connected to one end of said bellows, a certain amount of a gas disposed within said length of tubing and said bellows, said gas of an amount sufficient to cause the operation of said bellows on an expansion thereof responsive to a rise in temperature of the entire length of said length of tubing some temperature above the freezing temperature of water, said closed end of said length of tubing being disposed within said container whereby said closed end of said length of tubing is maintained at a temperature below the freezing temperature of water when said means for defrosting said evaporator is operating until said ice disposed within said container is melted, and means connected to the other end of said bellows and operating responsive to the operation of said bellows for terminating said means for defrosting said evaporator.

2,773,355. TWO-TEMPERATURE REFRIGERATING SYSTEM. Ralph W. Doeg, Detroit, Mich., assignor to Nash-Kelvinator Corp., Detroit, Mich., a corporation of Maryland. Application June 23, 1953, Serial No. 363,460. 3 Claims. (Cl. 62-3.)

1. Refrigerating apparatus comprising

### AVAILABLE!



#### NEW

2 speed motor—rated  
1/2 H.P. 1800/1200  
RPM 115 V. 60 cy.  
1 ph. Resilient mount.  
On-off—2 speed forward-reversing switch and cord included.  
Name Brand!

BARGAIN PRICE \$10.00 ea.

AJAX ELECTRIC MOTOR CORP.  
P.O. BOX 262X ROCHESTER, N.Y.  
PHONE LD 132

Cash for your surplus new motors

### SALES REPRESENTATIVE WASHINGTON, D. C.

If you have experience selling air conditioning and refrigeration units, investigate this opportunity. One of the top AC&R companies wants man capable of establishing and servicing dealerships in Washington area. Must have thorough knowledge of design, layout, estimating, and installation of REMOTE air conditioning and refrigeration equipment up to 150 hp. Salary plus incentives, with above average benefits backed up with a nationwide advertising program. This is a career opportunity with an expanding organization.

For complete information, send resume to R. C. Hughes, Director of Training, Worthington Corporation, Harrison, N. J.

SEE IT AT YOUR WHOLESALER  
FROM COAST TO COAST

NEWEST KESCO AUTOMATIC  
20 FOOT LIFT  
CONDENSATE PUMP

MAKES GRAVITY DRAINS UNNECESSARY

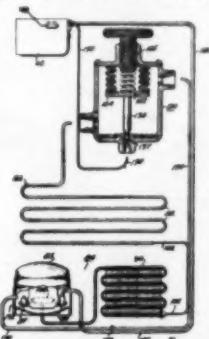
MONEY BACK  
GUARANTEE

KESCO  
PRODUCTS CORP.

Est. 1944  
Springfield Gardens 13  
New York

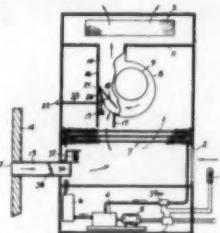


ing, a refrigerant evaporator to function at a low temperature, a refrigerant compressor having a cylinder operatively connected to said evaporator



having a relatively high capacity corresponding to the low temperature to be maintained by said evaporator, a refrigerant condenser operatively connected to the outlet of said compressor cylinder, a second refrigerant evaporator operatively connected to said condenser to receive liquid refrigerant therefrom, said compressor having a second cylinder operatively connected to said condenser and to said second evaporator, said second compressor cylinder having a capacity less than said first compressor cylinder and being in parallel circuit relationship therewith, and a pressure responsive valve connecting said evaporators in series circuit relationship to maintain the pressure in said second evaporator above a certain value and also connecting said second evaporator directly to said low capacity compressor cylinder.

2,773,356. AIR COOLING SYSTEM WITH RECIRCULATING PASSAGEWAY. Robert C. Coblenz, Erie, Pa. Application May 25, 1954, Serial No. 432,274. 6 Claims. (Cl. 62-6.)



1. In an air cooling system, a casing having an intake for air to be cooled and an outlet for cooled air, a sub-freezing cooling heat exchanger within the casing in the path of the air flow between and spaced from the intake and outlet, a fan within the casing for producing a forced circulation of air from the intake over the heat exchanger to the outlet, the flow of air from the inlet side to the outlet side of the heat exchanger being unrestricted, a recirculating passageway within the casing spaced from and between the intake and the outlet from the casing and leading from the outlet side of the heat exchanger back to the intake side of the heat exchanger, a damper within the casing associated with the recirculating passageway and arranged on the outlet side of the heat exchanger at a point at which the cooled air has a positive pressure for deflecting part of the cooled air back from the outlet side of the heat exchanger through said passageway to the intake side of the heat exchanger for further cooling, and a thermostatic device within the casing and responsive to the temperature of the cooled air in the casing for moving the damper to cut down the flow of air through the recirculating passageway at a pre-selected low temperature of the cooled air in the casing.

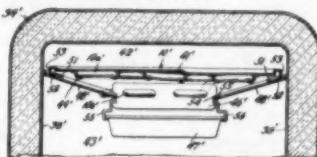
2,773,357. OPEN TOP DISPLAY CASE WITH NIGHT COVER. James A. Canter, Dayton, Ohio, assignor to General Motors Corp., Detroit, Mich., a corporation of Delaware. Application Aug. 4, 1955, Serial No. 526,502. 7 Claims. (Cl. 62-35.5.)



1. A self-service refrigerated display case comprising in combination, insulated bottom, back, front and end walls forming horizontally elongated open top compartment in said case, means for supporting food products in said compartment, means for cooling air in said case, means for circulating the cooled air around said food supporting means and over food products thereon, substantially parallel members having integral horizontal and vertical walls mounted on top of the insulated end walls of said compartment, said members being disposed in opposite relationship relative to one another and forming tracks along said compartment end walls, a rigid night cover for said compartment extending continuously across the length thereof and overlapping a portion of said insulated end walls, said cover including a single roller at each of its corners adapted to support same on said tracks, said cover having a part thereof normally lying over said compartment

back wall and affording access to said compartment through its open top, said cover being movable along said tracks forwardly of said back wall into association with the front wall of said compartment to close its open top, and means for mounting each of said rollers at an acute angle on said cover with their peripheral surface simultaneously engaging a portion of both said horizontal and vertical walls of said members whereby to prevent angular shifting of said cover on said tracks and binding of the cover during movement thereof along the tracks.

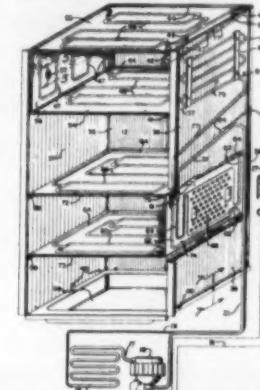
2,773,359. ABSORPTION REFRIGERATION APPARATUS. Wilhelm Georg Kogel, Karl Gunnar Boren, and Axel Harald Ostergren, Stockholm, Sweden, assignors to Aktiebolaget Electrolux, Stockholm, Sweden, a corporation of Sweden. Application July 1, 1952, Serial No. 296,672. Claims priority, application Sweden July 3, 1951. 11 Claims. (Cl. 62-103.)



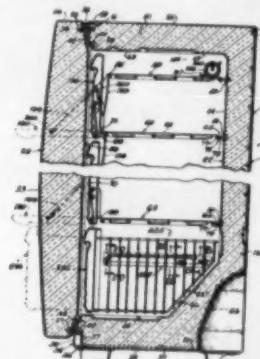
1. A refrigerator comprising a cabinet having a thermally insulated interior defined by top, bottom, rear and lateral side walls, an absorption refrigeration system comprising a gas circuit including a cooling unit having at least two sections disposed in the cabinet interior and comprising piping having active portions in which liquid refrigerant evaporates in the presence of an inert gas at a low average or mean temperature in one section and at a higher average or mean temperature in another section, means for flowing liquid refrigerant by gravity through said low and higher temperature cooling unit sections, respectively, means forming a part of said higher temperature cooling unit section which provides a relatively extensive heat transfer surface depending downwardly below said low temperature cooling unit section, said higher temperature cooling unit section taking up at least twenty-five percent less space between said lateral side walls than the overall width of said cooling unit which extends a major portion of the distance between said lateral side walls, structure providing drip collecting and drainage surface means beneath said low temperature cooling unit section, said structure providing the draining surface means having all parts thereof within a vertical range whose lower limit is at a level at least as high as the extreme lower portion of said higher temperature cooling unit section, said drainage surface means substantially in its entirety being offset laterally between said side walls with respect to said higher temperature cooling unit section and disposed alongside of the latter, said low and higher temperature cooling unit sections and drip collecting and drainage surface means, respectively, forming ceiling areas of that part of the cabinet interior which extends downwardly from said partition.

2,773,362. REFRIGERATORS FOR FREEZING FOOD AND STORAGE OF FROZEN FOOD. Thomas G. Scheitlin, Evansville, Ind., assignor, by mesne assignments, to Whirlpool-Seeger Corp., a corporation of Delaware. Application May 18, 1953, Serial No. 355,615. 8 Claims. (Cl. 62-117.3.)

said chamber, one of said arms of the evaporator being substantially flush with the upper edge of said liner and secured thereto for closing the upper open end thereof to provide a top wall



1. In a refrigeration system for frozen food storage, the combination of an insulated cabinet having an outer shell and an inner liner separated by insulation, and having a door opening and an insulated door, a motor compressor located at the rear bottom corner of said cabinet and partially housed in a recess in said shell, and including a motor with a motor housing, a



compressor carried below the motor and driven thereby, and located in an oil sump below the motor housing, a plurality of evaporator shelves carried by the walls of the liner, and having freezing coils connected in series with each other, a main condenser including said outer shell, and sinuous tubing carried by the sides, back, top, and bottom of the shell on its inside, the said tubing extending forwardly on both sides of the shell and having U-bends located adjacent the door opening, the warm condenser tubing raising the temperature of the shell about the door opening and breaker strips to a point above the dew point to prevent condensation about the door opening, and a pre-cooler condenser carried by the motor compressor behind said cabinet, said compressor having its outlet directly connected to said pre-cooler, said pre-cooler discharging into the top of the motor housing, said motor housing having an upper conduit leading to said main condenser, a capillary tube restrictor extending from said main condenser to said evaporator shelves, and a suction conduit extending from the evaporator shelves to the suction inlet of the compressor.

(To Be Continued)

## CLASSIFIED ADVERTISING

RATES for "Positions Wanted" \$7.50 per insertion. Limit 50 words. 15¢ per word over 50.

RATES for all other classifications \$10.00 per insertion. Limit 50 words. 20¢ per word over 50.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other address by actual word count. Please send payment with order.

### POSITIONS WANTED

COMMERCIAL REFRIGERATION and air conditioning installation and service in Phoenix, Arizona vicinity, age 37, family man. At present own refrigeration service in small town. Available immediately. C. F. BURNS REFRIGERATION SERVICE, P.O. Box 18, Herington, Kansas.

SALES SUPERVISOR with 20 years' experience in all phases of air conditioning industry desires connection with responsible company, setting up and serving distributor or dealer organization, preferably in Southwest. Wide acquaintance with entire industry in Texas-Oklahoma area. Reply, BOX A5762, Air Conditioning & Refrigeration News.

CHICAGO SALES: Are you securing your proper share of the sales in this area. A sales representative with an intimate knowledge of the numerous customers and prospects should be able to insure this by constant supervision and helpful cooperation. BOX A5763, Air Conditioning & Refrigeration News.

ELECTRICIAN, GERMAN, with 2 years' experience in Brazil, fundamental knowledge of air conditioning, wants employment for one or two years with makers of air conditioning equipment in the U.S.A. who are interested in entrusting him therewith with their general agency for West Germany or Brazil. Speaks English and Portuguese, 22 years old, single, has tourist visa and is available at once. Write urgently, BOX A5764, Air Conditioning & Refrigeration News.

APPLICATION AND design engineer: Varied experience (8 years) design, load calculations, lay-out estimating piping, controls for air conditioning, heating and ventilating systems. Direct expansion, chilled water and air. Desire position with small or medium sized organization. Opportunity primary importance. Will relocate. BOX A5765, Air Conditioning & Refrigeration News.

### POSITIONS AVAILABLE

AIR CONDITIONING field engineers—Leading manufacturer of commercial and industrial air conditioning equipment. Degree required. Extensive travel. BOX A5758, Air Conditioning & Refrigeration News.

HAVE OPENINGS for 2 experienced servicemen. (Commercial only). Our men earn \$7,000.00 to \$8,500.00 annually. We furnish truck and guarantee minimum of 40 hrs. week. Located in a city you will like and in a shop that invites investigating. Why not look over our proposition. T & R SUPPLY COMPANY, INC., Kankakee, Ill.

### EQUIPMENT FOR SALE

ATTENTION: OWNERS of Baker compressors and condensers. We carry complete stock of repair parts for all Baker ammonia and freon compressors and condensers. Valves and ice plant equipment. CENTRAL ICE MACHINE COMPANY, 5014 South 24th Street, Omaha, Nebraska.

USED REFRIGERATORS—ranges. Gas or electric. Guaranteed in operating condition. General Electric, Westinghouse, Frigidaire and Kelvinator. Late models—1942 thru 1951. 4' to 8'. Trailer loads only. PEERLESS SALES COMPANY, 2237 Georgia Ave., Washington, D. C.

WANTED: DEALERS, distributors, to handle line of custom made soda fountains and food service equipment. High discount rates. State territory, qualifications, references. S. & R. SODA FOUNTAIN MANUFACTURING CO., 550 Trinity Avenue, New York 55, N. Y.

### BUSINESS OPPORTUNITIES

FOR SALE: Well established air conditioning and refrigeration firm. Ideal location in Western Nebraska, serving 12 towns and rural. Only refrigeration service in town or within 30 miles. Will lease building 46x54 with office, parts, showroom and shop. Wonderful opportunity for industrious party or partners. Write BOX 293, Sidney, Nebraska.

### MISCELLANEOUS

ATTENTION SERVICEMEN: Send for free circulars and bulletins on refrigeration parts and equipment. Real money saving values: WALTER W. STARR, 2833 Lincoln Avenue, Chicago 13, Illinois.

## EEI Convention Program--

(Concluded from Page 1, Col. 4) commercial sales groups will be held, and on Wednesday and Thursday morning general sessions will take place, it was announced.

Three talks dealing with the general theme, "Space Conditioning the Modern Way," will be presented Tuesday afternoon as a part of the commercial sales group meeting.

### Commercial Topics

H. L. Cushing, commercial manager, Appalachian Electric Power Co., Roanoke, Va., will speak on the topic, "Heat Pumps Have It!" He will explain how heat pumps can "successfully be sold and applied to commercial establishments."

Following this will be a talk by C. F. Kreiser, general sales manager, Edwin L. Wiegand Co., on "Resistance Heat Rings a Bell." It is the "story of present-day economic considerations" that are "forging new interest" in resistance heating for schools, hospitals, offices, motels, and other non-manufacturing locations.

"Space Conditioning Competition—1957" is the theme of E. R. Ambrose's talk. He is head of Air Conditioning Div., American Gas & Electric Service Corp., New York City. His paper will evaluate and compare design features, application practices, and owner's cost of available air conditioning equipment. "Particular attention is given to current research and development of the self-contained packaged type of units," it was noted.

### Residential Group

The residential group will also get-together Tuesday, April 2. Opening the afternoon session, J. H. K. Shannahan, commercial manager of Indiana & Michigan Electric Co., will speak on "Do It Right and Be Happy." This will be a residential electric heating presentation pointing out the need for proper insulation which will "mean satisfied users of electric heating installations."

In another talk at this session, on "How To Make Friends and Influence Dealers," Harry B. Price, past president, National Appliance & Radio-TV Dealers Association, will review utility programs from a critical dealer's standpoint.

### General Sessions

Leading talks in general sessions include "The Heat's On—Electrically" at 9:30 Thursday morning, April 4. M. G. Kennedy, manager of the sales, marketing, and public relations department, Ebasco Services, Inc. will outline some of the major problems and success ex-

## Worthington--

(Concluded from Page 1, Col. 2)

perienced in electric space heating by various utility companies.

At the general luncheon Thursday noon, which closes the conference, a "Live Better Electrically" spectacular will be presented.

T. O. McQuiston, chairman of the Commercial Div. Executive Committee, reported that single and twin rooms at the Edgewater Beach hotel have been sold out for several months. A few small suites and sunparlor suites were still available as of a recent date. However, it was noted, accommodations are available again this year at the Sands motel next to the hotel.

McQuiston said the Edgewater Beach hotel will aid anyone in obtaining rooms if no arrangements have yet been made for accommodations. Write A. J. Alonso, reservation manager of the hotel.

"The new sales organization," says Lawler, "will enable our division to keep abreast with Worthington's rapid growth in the air conditioning and refrigeration field. It will enable us to supply our franchised outlets with faster service in the handling of orders and inquiries.

"It will serve to bring about a better continuity of contact through concentrated sales and technical assistance from the seven district sales areas headed by a distribution district manager who will report directly to the sales manager of distribution for the Air Conditioning & Refrigeration Div."

## Airtemp Urges Dealers To Use Cooling--

(Concluded from Page 1, Col. 5)

In this connection, Knoff cited

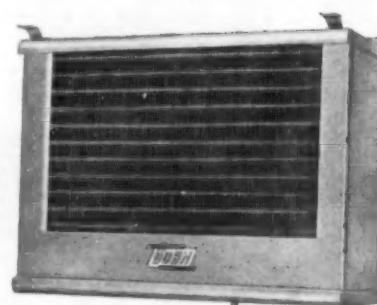
a recent experience at an air conditioning conference where he presided as a panel member. At one point in the discussion, the group—numbering several hundred dealers, distributors, and manufacturers—was asked if they had air conditioning in their homes. A show of hands indicated that only a small percentage of those in attendance lived in air conditioned homes.

### Evansville ASRE Hears Luscombe

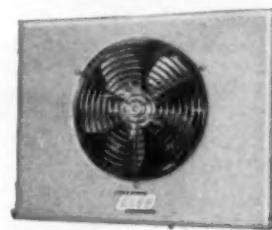
EVANSVILLE, Ind.—Robert H. Luscombe of Penn Controls, Inc. discussed the application of controls to refrigeration and air conditioning equipment, including recent developments, service problems and experiences at a recent meeting of the local section of American Society of Refrigerating Engineers.

# BOHN Presents

## the NEW ANGLE in Low Temperature Units with Vapor Hermetic Defrost



Model LC Unit Cooler for large walk-ins and low temperature storage. Rating from 600 through 1800 BTU per hr. at 1°T.D.



Model LR Reach-in Cooler for small applications. Ratings from 100 through 190 BTU per hr. at 1°T.D.

Extensive Bohn engineering research has led the way to a new idea . . . a defrost system that's unique in simplicity. A hermetically sealed vapor electric heating system is built within the coil. Heated vapor circulates by gravity, eliminating expensive flow control devices.

This system removes uncertainties and variables. It is not necessary to penetrate the frost barrier. Extra piping and complicated installation problems are avoided.

Features include an adjustable defrost time clock, heating pad in drain pan and temperature terminated switch. Easily-accessible, cartridge type heater elements in hermetic system eliminate leak tests.

Write today for full details. Reserve your free copy of Bohn CATALOG BU-1.



Model LM Mullion Lo-Temp for upright freezers. Ratings of 140 and 190 BTU per hr. at 1°T.D.



Manufacturers of Commercial  
Refrigeration, Industrial Air  
Conditioning and Special Heat  
Transfer Surface

BOHN ALUMINUM & BRASS CORPORATION • BETZ DIVISION • DANVILLE, ILLINOIS